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COAST AND GEODETIC SURVEY. (1908.)
O. H. TITTMANN, SUPERINTENDENT

UNITED STATES

MAGNETIC TABLES AND MAGNETIC CHARTS

FOR 1905

BY

L. A. BAUER

Inspector of Magnetic Work and Chief of Division of Terrestrial Magnetism

WASHINGTON
GOVERNMENT PRINTING OFFICE
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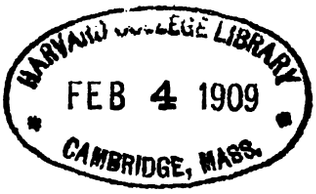

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UNITED STATES MAGNETIC TABLES AND MAGNETIC CHARTS FOR JANUARY 1, 1905.[a]

By L. A. BAUER,[b]

Inspector of Magnetic Work and Chief of Division of Terrestrial Magnetism.

GENERAL STATEMENT.

The present publication portrays the state or condition of the Earth's magnetic forces in the United States for the date January 1, 1905. It accordingly contains tables of the observed magnetic elements, as far as available, and their values when reduced to this common epoch. There are furthermore given graphical representations of the actual distribution of the magnetic elements—declination, dip or inclination, horizontal component of the total intensity of the Earth's magnetic force, the vertical component, and also the total intensity. It has also been found instructive to give a chart of the "magnetic meridians" showing the actual direction assumed by a compass needle at various points in the United States. Diagrams (Chart 7) are likewise added exhibiting the principal phenomena resulting from the progressive or "secular" changes experienced with time by the Earth's magnetism.

Sir John Herschel aptly says:

"The configuration of our globe—the distribution of temperature in its interior—the tides and currents of the ocean—the general course of the winds and the affections of climate—whatever slow changes may be induced in them by those revolutions which geology traces—yet remain for thousands of years appreciably constant. * * * But the magnetic state of our globe is one of swift and ceaseless change. A few years suffice to alter materially, and the lapse of half a century or a century to obliterate and completely remodel the form and situation of those lines on its surface which geometers have supposed to be drawn in order to give a general and graphical view of the direction and intensity of the magnetic forces at any given epoch."

This quotation sets forth admirably the reasons why it is necessary to issue revised magnetic charts at intervals of five or ten years. But in addition to the changes caused by the secular variations of the Earth's magnetism there are also those resulting from additional data acquired since the date of the previous charts. Owing to the active and renewed interest shown in magnetic work at present almost everywhere the accumulation of fresh material is advancing at a most satisfactory pace.

The improvements in the present set of magnetic charts have accordingly resulted both from the acquirement of the large amount of recently observed data in the United States and from the increased knowledge of the secular change and the resulting correction necessary to refer an observation to the date January 1, 1905.

In round numbers it may be said that the three magnetic elements (declination, dip, and force) have been observed at about 3,300 uniformly distributed points, about two-thirds of this number having been occupied by the observers of the Coast and Geodetic Survey during somewhat over seven

[a] This supersedes the "United States Magnetic Declination Tables for 1902," except the first one hundred pages, and all of Appendix 4, Report for 1906 ("Distribution of the Magnetic Declination in the United States for January 1, 1905, with Isogonic Chart and Secular Change Tables"), and takes the place of the proposed publication referred to on page 213 of that appendix.

[b] Resigned September 1, 1906. [The major part of the work involved in this publication had been completed at date of resignation, but completion had to be deferred until the determination of the secular variation corrections had reached the desired degree of certainty.]

years—May 1, 1899, to September 1, 1906, when the magnetic operations of the Survey were in the writer's charge. The great increase in the number of stations occupied annually since 1899 was due to enlarged appropriations making it possible to increase the observing force and to acquire facilities not possessed before. Thus, with the aid of data from magnetic observatories established at Cheltenham (Maryland), Baldwin (Kansas), Sitka (Alaska), Honolulu (Hawaii), and Vieques (Porto Rico) it was possible to reduce the time required to obtain satisfactory results at any one station. In consequence it is now possible to occupy from two to three times as many stations in any given time as before 1899, without any sacrifice in accuracy.

To satisfy the practical demands in those parts where it is still found convenient and economical to use the compass in land surveying, the points of observation were permanently marked and either true meridian lines established or true bearings of well-defined terrestrial objects were determined. This necessitated at least partial reduction of the observations in the field—a precautionary measure which has furthermore been found advantageous, enabling the observer to detect errors while still on the ground. For these reasons and because of the time necessarily spent in traveling or lost owing to inclement weather, the number of stations completed per month varied from eight to sixteen.

The stations are at present, on the average, about 31 miles apart; or, we may say, there is, on the average, one station for every 973 square miles. Further information regarding the distribution of the stations is given farther on.

Because of the large amount of accurate magnetic data available for the United States it was possible for the first time to construct the magnetic charts and to compile the accompanying tables based upon strictly reliable and homogeneous data. Heretofore it was necessary for the construction of the isogonic charts[a] to depend very largely upon data secured from miscellaneous sources, the precise value of which could not always be safely gauged. The previous isoclinic and isodynamic charts[b] had to rest upon even more slender material. Now, however, the charts of the various magnetic elements all depend upon practically the same number of observations made at the same points. They are accordingly strictly comparable and various investigations, such as the study of the manifold irregularities in magnetic distribution, may be more successfully pursued than was hitherto possible.

During the period 1899–1906 the determination of instrumental errors received special attention, these errors being more frequently inherent in magnetic instruments than was generally supposed. All instruments used by the Coast and Geodetic Survey and cooperating organizations were therefore studied carefully and intercompared as frequently as possible, and the corrections thus derived on certain so-called "Standard" instruments were applied to the observed results. Furthermore, as far as the means permitted, the endeavor was made to multiply stations in order to eliminate as effectually as possible station errors, due to local disturbance, which frequently far exceed the observation errors.

Another feature enhancing the value of the present charts is the fact, that in addition to the observations on land, magnetic work at sea was begun in 1903 on the Coast Survey vessels. There were hence available the magnetic results obtained by these vessels along our coast during the four years 1903–1907, as well as the results obtained by the Carnegie Institution of Washington along the Pacific coast. Moreover, use was made of the results of numerous observations on land made by that institution in Canada, Mexico, Central America, and the West Indies, and also data received from the Mexican Government and from the Canadian Government, as elsewhere acknowledged.

The present magnetic charts apply to the date January 1, 1905. A date prior to the year of publication rather than a subsequent one, e. g., January 1, 1910, was selected in order to be able to construct the magnetic charts with greater accuracy. Had they been constructed for 1910, it would have been necessary to estimate the amount of secular change in advance of observations. Now the past ten years have shown that this is a hazardous procedure on account of the unexpected and complicated features of the secular variation which were disclosed by the frequent occupations of the same stations. It was found that the secular variation had not progressed in accordance

[a] The last published prior to the one for 1905 was for 1902 (United States Magnetic Declination Tables for 1902).
[b] The last published were for 1900 (C. & G. S. Report, 1897, App. 1).

with the predictions from the empirical formulæ established earlier. Since the magnetic charts for January 1, 1905, are virtually based upon observations almost to the end of the year 1907, the errors due to secular variation reductions have been reduced almost to a minimum, especially as the epoch selected falls within the period during which the vast majority of the observations utilized were obtained. Future improvements of the charts will therefore be due primarily to additional material rather than to increased knowledge of the secular change. Furthermore, owing to the methods pursued in this country, the secular changes are being determined from year to year, so that it is readily possible to refer a result scaled from the magnetic charts for 1905 to the present time. It is the intention of the Carnegie Institution to refer its magnetic charts likewise to the same period, January 1, 1905.

The United States Magnetic Tables and accompanying charts receive added interest from the fact that as they embrace an area equal to nearly one-fifteenth of the entire land area of the globe, or nearly equal to that of Europe, they at present cover the largest land area for which a general magnetic survey, on a homogeneous basis and with the requisite accuracy, has been made. This statement applies not only to the actual distribution of the magnetic forces or magnetic elements in the United States, but likewise to the study of the secular changes.

It had been the original intention to include in this publication a discussion and analysis of the United States magnetic field and of its secular variations. However, owing to the urgent demand for a new edition of the "United States Magnetic Declination Tables," originally issued for 1902, the two editions of which are now out of print, it became desirable to publish the new tables as soon as possible and to defer the discussion and analysis to some future date. The text in the present publication is therefore confined to such remarks and explanations as are necessary to set its contents clearly before the reader.

The writer takes great pleasure in acknowledging the substantial assistance rendered in various ways by the present inspector of magnetic work, Mr. R. L. Faris, and by the computers of the Division of Terrestrial Magnetism, Messrs. D. L. Hazard, W. E. Beck, and H. M. Armstrong.

TABLE I.

THE OBSERVED MAGNETIC ELEMENTS IN THE UNITED STATES AND CONTIGUOUS COUNTRIES AND THE VALUES REDUCED TO JANUARY 1, 1905.

EXPLANATORY REMARKS.

Table I contains the observed magnetic elements (declination, inclination or dip, and the horizontal intensity or horizontal component of the Earth's magnetic force) in the United States and also in the contiguous countries (British North America, Mexico, and West Indies) within the area covered by the magnetic charts of the United States. For each station the latitude and longitude are given to the nearest minute of arc, the date to the nearest tenth of a year, the three observed magnetic elements as already stated, and the values of the same elements reduced or referred to January 1, 1905 (1905.0), and finally the source. The horizontal intensities are given in C. G. S. units. In a few instances the total intensity was observed and the horizontal intensity computed from the observed inclination and total intensity. The column "Source" will enable anyone with the aid of the key as explained in the "Abbreviations" below to determine the institution, organization, or observer responsible for the observation, and also where the same is published or where it was obtained. The entries for each State are arranged in the order of increasing latitudes except when that arrangement would separate stations in the same locality.

With but few exceptions (in the declinations), only such results are given as were obtained with approved instruments. In a few localities where the distribution of the magnetic elements is very irregular and where observations were scarce it was necessary to utilize some of the miscellaneous magnetic declinations tabulated in the publication designated below as "CS.d;" but these results are not given in the following tables. Corrections on account of diurnal variation were applied to the observed declinations in nearly all instances, and where this was not done it was because of lack of sufficient information in the publication from which the result was obtained. During recent years it has been the practice of the Coast and Geodetic Survey to refer an observed declination to the mean of the month in which the observation was made, utilizing the monthly tabulations obtained at its magnetic observatories. As far as this organization is concerned, the magnetic elements as tabulated have been referred to standard instruments with the aid of numerous intercomparisons both in the field and at the observatories. It has not been found worth while in the construction of magnetic charts to undertake the tremendous labor required to apply to the observed inclinations and intensities corrections on account of diurnal variation, which are, in general, on the order of the error of observation and certainly much less than the "station error" due to the irregular distribution of the Earth's magnetism, well-nigh universally prevalent over land areas. Some investigations by the Department of Research in Terrestrial Magnetism of the Carnegie Institution of Washington indicate that the Coast and Geodetic Survey standard magnetometer for horizontal intensities gives results about one-thousandth part of the observed quantity too high on an "International Magnetic Standard." The results as tabulated, obtained since about 1903, may therefore require to be diminished by this amount ($_{1}{}_{0}{}_{0}{}_{0}\,H$); for the present purposes, however, it has been deemed best not to apply this correction, especially as it also is on the order of error of observation and considerably smaller than the station error.

For any one station only the most recent results are in general presented, with a view of making the errors in reducing the values to 1905.0 as small as possible. Only when different stations in the same locality were occupied by the same organization, or the same station by different organizations, at different periods, and with different instruments, will more than one entry be found for the same station or locality. However, as complete a compilation as possible was made for each station at which the magnetic elements have been observed at various times, and these compilations were used to perfect the "tables of reductions to 1905.0."

Table I is a compilation of all reliable magnetic observations since about the year 1850, though in a few cases it was deemed desirable to include the values since 1840, which is about as far

back as fairly satisfactory secular variation tables for the three magnetic elements can be established. However, the great majority of the observations—about two-thirds—have been secured since the formation in 1899 of a division in the Coast and Geodetic Survey, devoted exclusively to magnetic work. Since then the funds provided have made it possible to occupy annually about 300 to 400 stations, besides obtaining magnetic results at sea and maintaining five magnetic observatories. Hence the present magnetic charts are practically based upon material secured during the seven years 1899–1906, and are therefore subject to comparatively small error on account of imperfect knowledge of secular changes. As a matter of fact, the secular changes were deduced with the aid of observations made up to the end of the year 1907, so that the epoch selected, 1905.0, falls within the interval during which the majority of the results was obtained.

For the methods of observation used in the Coast and Geodetic Survey, and for other details, descriptions of stations, etc., the reader is referred to the Annual Reports of the Superintendent of the Coast and Geodetic Survey. It is only possible to state here briefly that the attempt is made to secure the declination and the inclination within an absolute accuracy of about two minutes of arc and the horizontal intensity within about one-thousandth part.

The following summary will give some idea as to the general distribution of the stations occupied. Of the stations in the United States for which the magnetic elements are tabulated (3,311 in all), 2,869 are Coast and Geodetic Survey stations. A number of the stations in the contiguous countries were likewise established by the same organization. *It will be seen that for the United States (exclusive of all outlying possessions) the total number of results tabulated for each element approximates about 3,000 and that there is, on the average, one magnetic station per 973 square miles.*

Distribution of magnetic stations in the United States to the end of 1906.

[N = number of square miles per magnetic station.]

State	N	State	N	State	N
Alabama	1,306	Maine	688	Ohio	419
Arizona	1,027	Maryland	90	Oklahoma	2,012
Arkansas	1,417	Massachusetts	173	Oregon	1,334
California	1,228	Michigan	701	Pennsylvania	551
Colorado	1,823	Minnesota	1,895	Rhode Island	114
Connecticut	151	Mississippi	1,115	South Carolina	650
Delaware	158	Missouri	463	South Dakota	2,353
Florida	826	Montana	2,519	Tennessee	765
Georgia	929	Nebraska	1,230	Texas	1,460
Idaho	2,924	Nevada	1,757	Utah	2,296
Illinois	1,574	New Hampshire	716	Vermont	736
Indiana	1,173	New Jersey	174	Virginia	363
Iowa	1,273	New Mexico	1,679	Washington	760
Kansas	714	New York	572	West Virginia	427
Kentucky	546	North Carolina	443	Wisconsin	1,192
Louisiana	518	North Dakota	2,145	Wyoming	2,083

Number of magnetic results tabulated.

	Number of			
	Stations	Declinations	Inclinations	Intensities
United States (48 States and Territories)	3,311	3,207	2,862	2,777
British North America (South of 52° N. and West of 60° W.)	575	488	328	298
Mexico	201	230	175	172
West Indies	62	61	28	25
Total	4,149	3,986	3,393	3,272

Special acknowledgment is due Señor Felipe Valle, Director Observatorio Astronomico Nacional Mexicano, Tacubaya (D. F.), Mexico, for transmitting in MS. the results of magnetic observations

made under his direction at seventy stations in 1906–7, by Manuel Moreno y Anda and Abel Dias Covarrubias, and to Dr. W. F. King, Chief Astronomer, Ottawa, Canada, and to Prof. R. F. Stupart, Director, Meteorological Service, Toronto, Canada, for results of magnetic observations in British North America made under their direction during 1907. Acknowledgment should also be made of the service rendered by the Carnegie Institution of Washington through its Department of Terrestrial Magnetism in making observations in the West Indies, Mexico, Central America, and British North America in 1906–7, with the aid of which the secular change tables could be amplified and perfected, and also for furnishing the results of observations made at sea.

Care has been used in securing correctness as far as possible in the entries in the table. Only one who has undertaken similar compilations can appreciate the amount of labor, of the most painstaking and exacting kind, involved in such work, and realize that absolute correctness can only be hoped for after repeated revisions. The reader who may detect errors will render appreciative service by promptly bringing them to the attention of the Superintendent of the Coast and Geodetic Survey.

Abbreviations used to designate source.

AA.—Magnetic observations made under the auspices of the Royal Austrian Academy by Karl Friesach, and originally published in K. K. Akad. d. Wiss., Vienna, vol. 29, 1858. If also published in previous Coast and Geodetic Survey tables, then additional reference is made accordingly to d (CS.d), or to do (CS.do), or to d1 (CS.d1), thus AA.d, or AA.do, or AA.d1.

BN.—Magnetic observations by officers of the British Navy. If the reference be BN.01, the result will be found given in the British Admiralty "List of Magnetic Observations * * * during the years 1890–1900," published in 1901. BN.05 would similarly mean the "List of Magnetic Observations * * * during the years 1900–1905," published in 1905, and BN.07 the "List of Magnetic Observations for years 1905–6," published in 1907.

CI.—Magnetic observations made by the Department of Research in Terrestrial Magnetism of the Carnegie Institution of Washington, furnished in MS.

CO.—Magnetic observations made in British North America, generally by Canadian observers in some official capacity, though occasionally also by others. If the results have already appeared in previous Coast and Geodetic Survey publications, the reference may be "CO.d," or "CO.do," or "CO.d1" (referring respectively to publications "CS.d," or "CS.do," or "CS.d1"). When they were furnished in MS., they are simply marked "CO." Some results taken from the Lake Survey publications (see LS.3E) are designated, "CO.3E."

CO.98.—Magnetic observations made by Messrs. William Ogilvie, Th. Fawcett, E. Deville, F. W. Wilkins, O. J. Klotz, J. S. Dennis, W. T. Thompson; published by Dr. W. F. King, Chief Astronomer, in "Annual Report of the Department of the Interior for the year 1898, Ottawa, 1899, pp. 380–387." [Correction for diurnal variation was applied to the published declinations as far as circumstances permitted. The horizontal intensities were computed from the observed dips and observed total intensities.]

CS.d.—United States Coast and Geodetic Survey; Magnetic Declination Tables and Isogonic Charts for 1902, by L. A. Bauer, 2d edition, Washington, 1903.[a]

CS.o.—United States Coast and Geodetic Survey; The Geographical Distribution and Secular Variation of the Magnetic Dip and Intensity in the United States [for January 1, 1885], by C. A. Schott, Appendix 6, Report for 1885, Washington, 1886.[a]

CS.1.—United States Coast and Geodetic Survey; Distribution of the Magnetic Dip and Intensity in the United States for January 1, 1900, by C. A. Schott, Appendix 1, Report for 1897, Washington, 1898.[a]

[a] The values observed by the Coast and Geodetic Survey prior to 1881 with descriptions of stations will be found in Appendix 9, Report for 1881, Washington, 1882. However, as some changes have been made at times in the originally published values, it will be safest to resort to the references given above, viz, "CS.d" for the declinations and "CS.1" (and occasionally "CS.o") for dips and intensities. Some slight revisions have been made since "CS.d" was issued and in case a declination is not found in "CS.d" when reference is made to it, then see Appendix 1, C. & G. S Report for 1896, and occasionally also Appendix 11, Report for 1889.

CS.2.—United States Coast and Geodetic Survey; Magnetic Dip and Intensity Observations, January, 1897, to June 30, 1902, by D. L. Hazard, Appendix 6, Report for 1902, Washington, 1903.

CS.do; CS.d1; CS.d2.—Declination results will be found in CS.d and dip intensity results in CS.0, CS.1 and CS.2.

CS.3.—United States Coast and Geodetic Survey; Results of Magnetic Observations made by the Coast and Geodetic Survey between July 1, 1902, and June 30, 1903, by L. A. Bauer, Appendix 5, Report for 1903, Washington, 1904.

CS.4.—United States Coast and Geodetic Survey; Results of Magnetic Observations made by the Coast and Geodetic Survey between July 1, 1903, and June 30, 1904, by L. A. Bauer, Appendix 3, Report for 1904, Washington, 1904.

CS.5.—United States Coast and Geodetic Survey; Results of Magnetic Observations made by the Coast and Geodetic Survey between July 1, 1904, and June 30, 1905, by L. A. Bauer, Appendix 3, Report for 1905, Washington, 1905.

CS.6.—United States Coast and Geodetic Survey; Results of Magnetic Observations made by the Coast and Geodetic Survey between July 1, 1905, and June 30, 1906, by L. A. Bauer, Appendix 3, Report for 1906, Washington, 1906.

CS.7.—United States Coast and Geodetic Survey; Results of Magnetic Observations made by the Coast and Geodetic Survey between July 1, 1906, and June 30, 1907, by R. L. Faris, Appendix 5, Report for 1907, Washington, 1907.

CS.8.—United States Coast and Geodetic Survey; Results of Magnetic Observations made by the Coast and Geodetic Survey between July 1, 1907, and June 30, 1908, by R. L. Faris, Appendix 3, Report for 1908, Washington, 1908.

CY.83; CY.d; CY.d1.—See "*JL.83.*"

EL.—Magnetic observations by Prof. E. Loomis, published in "Transactions, American Philosophical Society, Vol. VIII, 1843." Reference may be made to "CS.d1," thus, e. g., EL.d1.

FN.—Magnetic observations by officers of the French Navy, e. g., by Lieut. Louis Mottez, Annales hydrographiques, vol. 2, 1893.

JL. 83.—Diary of a Magnetic Survey of a Portion of the Dominion of Canada chiefly in the North-Western Territories executed in the years 1842–1844 by Lieut. J. H. Lefroy. London, 1883. [The results as given in the following tables are in accordance with the revised results given by Lefroy in his "Diary," and hence differ at times from those contained in the earlier tables of the Coast and Geodetic Survey, which were based upon the figures given in Sabine's "Contributions," No. XIII, 1872. It should be noted that Lefroy's own table (No. XIX, "Diary" pp. 166–170) contains errors as revealed by the text. The values of the horizontal intensities were recomputed from the dip and total intensity results given by Lefroy. The declinations, as remarked by Lefroy himself, are not in general wholly satisfactory, individual results at the same station differing some times by 1° and more. Doubtless on this account he made no attempt to apply any correction for diurnal variation; the results are accordingly given to the nearest whole minute, although they may be in error by many minutes. Some declinations observed on "term days," not contained in Lefroy's "Diary," have been taken from the reference designated above as "CS.d;" they will be found entered as "JL.d." Some results by Lieut. C. Younghusband will be found designated as "Cy.83" (if taken from Lefroy's "Diary") or "CY.d" or CY.d1" (if taken from "CS.d" or "CS.d1").]

LS.3E or LS.—Magnetic Observations by the United States Lake Survey. [The results of 1897 were originally published in the Annual Report of the Chief of Engineers for 1898, Appendixes DDD and EEE. For summaries of the observations up to 1905, see Appendix EEE, Report of the Chief of Engineers for 1905. Bulletin No. 17—Survey of the Northern and North-West Lakes; Corps of Engineers, 1907, contains maps of the Isogonic Lines and the Lines of Equal Dip for 1907 over the Great Lakes, as also the magnetic results of a special examination of the Lake Superior region. All this information was utilized as far as possible. A MS. table courteously furnished by the Lake Survey contained the results of observations made by Mr. Russell in 1904–5–6. The values of horizontal intensity for 1904, published in the Annual Report for 1905, quoted above, were found to have been increased in the MS. table by 1⅓ per cent, thus bringing them in better accord with the Coast

and Geodetic Survey observations. As the results for 1905–6 have not appeared in any publication as yet, they are marked simply LS.; it was necessary to diminish the horizontal intensity values for these two years by 2 per cent in order to harmonize them with other observations at the same stations.]

LS.d1.—Magnetic observations by United States Lake Survey; tabulated in publications 'CS.d" and "CS.1."

MI.d1.—Results of Magnetic Observations made in connection with the Greenland Expedition of 1896, under the charge of Prof. A. E. Burton, by G. R. Putnam (Assistant, Coast and Geodetic Survey). Report of the Superintendent of the Coast and Geodetic Survey for 1897, Appendix No. 5, pp. 287–295. [The results will also be found in "CS.d1."]

MO.—Magnetic observations by Mexican observers or under the auspices of the Mexican Government. The observations 1906–7 were made by Messrs. Abel Dias Covarrubias and Manuel Moreno y Anda under the superintendence of the Director (Felipe Valle) of the National Observatory of Mexico and were communicated in MS. A few observations occur which were made previously by the Mexican observers, Manuel Moreno y Anda or Valentin Gama, and if already published the reference will be found in the footnotes.

MS. II.—Second Report on Magnetic Work in Maryland, by L. A. Bauer. Vol. V, Part I, Maryland Geological Survey, 1905 [Separate appeared in 1902].

NA.d1.—Records and Results of Magnetic Observations made at the charge of the "Bache Fund" of the National Academy of Sciences from 1871 to 1876, under the direction of J. E. Hilgard, Appendix 14, Report of the United States Coast and Geodetic Survey for 1882, Washington, 1883. [Mr. J. E. Hilgard was at the time Superintendent of the United States Coast and Geodetic Survey; the observers were T. C. Hilgard, F. E. Hilgard, and J. M. Poole. The results are also contained in the references designated above as "CS.d," "CS.o," and "CS.1."]

NI.d1.—Magnetic observations made by Prof. F. E. Nipher, originally published in the Transactions of the St. Louis Academy of Sciences, 1878–1886, and also tabulated in the publications "CS.d" and "CS.d1."

SM.—Observations on terrestrial magnetism in Mexico conducted under the direction of Baron von Müller, with notes and illustrations of an examination of the volcano Popocatepetl and its vicinity by August Sonntag, published by the Smithsonian Institution, 1860, Smithsonian Contributions to Knowledge. Additional reference may be made to the previous tables of the Coast and Geodetic Survey, viz., CS.d, CS.do, or CS.d1; thus SM.d or SM.do, or SM.d1.

UE.3E.—Magnetic observations by United States Engineers. (See LS.3E.)

UN.—Magnetic observations made by or under the auspices of officers of the United States Navy. If no further reference is given, the observations were communicated in MS. When UN.d or UNdo or UNd1 occur, it means that the observations were made by the United States Navy and have been published in the tables "CS.d," "CS.o," or "CS.1," as the case may be.

Miscellaneous abbreviations.

*—Indicates that a result shows "local disturbance."
R.—River.
Sd.—Sound.
Hbr.—Harbor.
I.—Island.
Ids.—Islands.
Pt.—Point.

53819—08——2

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905.*

ALABAMA

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Fort Morgan	30 14	88 01	1847.4	7 04.1 E	-- ----	.2867	4 05 E	-- --	.2744	CS.d
Daphne	30 36	87 54	1905.2	4 32.5 E	61 08.3	.2689	4 32 E	61 08	.2690	CS.5
Mobile	30 41	88 09	1905.2	4 30.5 E	61 14.2	.2685	4 30 E	61 14	.2686	CS.5
Citronelle	31 06	88 14	1905.2	4 33.3 E	61 43.4	.2655	4 33 E	61 43	.2656	CS.5
Evergreen	31 26	86 57	1900.4	3 48.2 E	62 09.9	.2629	3 48 E	62 22	.2608	CS.d2
Ozark	31 29	85 38	1903.1	3 16.0 E	62 20.5	.2628	3 16 E	62 25	.2619	CS.3
Grove Hill	31 42	87 46	1905.2	4 06.4 E	62 02.6	.2655	4 06 E	62 02	.2656	CS.5
Greenville	31 50	86 36	1896.2	3 46.6 E	62 18.9	.2634	3 34 E	62 40	.2595	CS.d1
Lower Peachtree	31 50	87 33	1857.3	6 02.4 E	62 16.8	.2755	3 37 E	62 17	.2633	CS.d1
Eufaula	31 53	85 08	1903.1	2 39.3 E	63 04.6	.2547	2 40 E	63 09	.2537	CS.3
Troy	31 53	85 57	1903.1	3 18.9 E	62 43.4	.2584	3 20 E	62 48	.2575	CS.3
Mount Carmel	32 01	86 21	1892.4	3 39 E	-- ----	----	3 20 E	-- --	----	CS.d
Ethridge	32 05	87 04	1892.4	3 34 E	-- ----	----	3 16 E	-- --	----	CS.d
Union Springs	32 09	85 42	1900.4	2 57.4 E	62 48.6	.2594	2 58 E	63 00	.2573	CS.d2
Montgomery	32 22	86 18	1900.4	2 47.6 E	62 51.0	.2613	2 48 E	63 02	.2592	CS.d2
Selma	32 27	87 03	1903.1	2 57.8 E	62 54.6	.2610	2 59 E	62 59	.2601	CS.3
Livingston	32 35	88 11	1903.1	4 39.3 E	63 10.4	.2585	4 42 E	63 15	.2576	CS.3
Opelika	32 37	85 25	1896.3	3 02.0 E	63 24.5	.2570	2 52 E	63 45	.2531	CS.d1
Greensboro	32 44	87 35	1903.1	4 14.7 E	63 37.2	.2567	4 16 E	63 42	.2558	CS.3
Dadeville	32 49	85 45	1905.2	3 02.2 E	63 48.1	.2532	3 02 E	63 48	.2532	CS.5
Centerville	32 56	87 08	1905.2	3 08.6 E	64 01.5	.2521	3 08 E	64 01	.2522	CS.5
Columbiana	33 11	86 36	1905.2	3 03.4 E	64 08.1	.2508	3 03 E	64 08	.2509	CS.5
Tuscaloosa	33 13	87 33	1905.2	4 26.4 E	64 17.3	.2502	4 26 E	64 17	.2503	CS.5
Talladega	33 26	86 06	1905.2	2 52.4 E	64 17.9	.2483	2 52 E	64 18	.2484	CS.5
Birmingham	33 31	86 50	1904.0	2 52.0 E	64 27.2	.2513	2 53 E	64 29	.2509	CS.4
Fayette	33 41	87 50	1905.2	4 21.5 E	64 31.9	.2499	4 21 E	64 32	.2499	CS 5
Jasper	33 50	87 17	1905.2	4 06.7 E	64 36.2	.2496	4 06 E	64 36	.2497	CS.5
Ashville	33 51	86 16	1904.0	2 51.3 E	64 53.1	.2475	2 52 E	64 56	.2471	CS.4
Oneonto	33 58	86 28	1904.0	2 38.7 E	64 55.3	.2474	2 39 E	64 57	.2470	CS.4
Gadsden	34 01	86 00	1904.0	2 07.5 E	65 07.2	.2463	2 08 E	65 09	.2459	CS.4
Indian Mountain	34 02	85 26	1875.7	4 10.6 E	65 09.5	.2523	2 42 E	65 14	.2458	CS.d1
Center	34 10	85 41	1904.0	1 56.6 E	64 57.4	.2460	1 57 E	64 59	.2456	CS.4
Cullman	34 10	86 50	1900.4	3 18.2 E	65 17.3	.2439	3 16 E	65 26	.2419	CS.d2
Guntersville	34 22	86 21	1903.9	2 58.4 E	65 33.6	.2436	2 58 E	65 36	.2433	CS.4
Fort Payne	34 29	85 42	1903.9	1 38.4 E	65 27.6	.2435	1 39 E	65 30	.2430	CS.4
Russellville	34 31	87 44	1905.2	4 13.0 E	65 27.8	.2408	4 13 E	65 27	.2409	CS.5
Decatur	34 37	86 59	1900.4	4 13.0 E	65 29.5	.2416	4 10 E	65 36	.2398	CS.d2
Scottsboro	34 42	86 02	1903.9	3 21.8 E	66 15.3	.2353	3 22 E	66 17	.2348	CS.4
Huntsville	34 42	86 35	1900.4	4 02.2 E	66 03.9	.2384	4 00 E	66 10	.2366	CS.d2
Florence	34 48	87 43	1890.4	4 15.6 E	65 30.6	.2415	3 43 E	65 48	.2375	CS.d1

ARIZONA

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g.'s.*	
Santa Cruz R.	31 18	110 31	1855.4	11 45 E	57 28	.2844	12 09 E	57 55	.2738	CS.d1†
San Bernardino	31 20	109 14	1855.3	11 45 E	57 19	.2883	12 09 E	57 43	.2777	CS.d1†
Boundary, Sta. 8	31 20	109 15	1892.6	11 56.9 E	-- ----	----	12 13 E	-- --	----	CS.d
Douglas	31 20	109 33	1903.4	12 30.3 E	58 19.4	.2812	12 35 E	58 21	.2808	CS.3
Boundary, Sta. 9	31 20	109 43	1892.7	12 23.1 E	-- ----	----	12 40 E	-- --	----	CS.d
Naco	31 20	109 57	1903.2	12 18.1 E	57 58.8	.2830	12 25 E	58 00	.2827	CS.3
Boundary, Sta. 10	31 20	110 10	1892.8	12 18.8 E	-- ----	----	12 36 E	-- --	----	CS.d
Boundary, Sta. 11	31 20	110 34	1892.9	12 04.5 E	-- ----	----	12 21 E	-- --	----	CS.d
Nogales	31 20	110 56	1903.2	12 44.9 E	57 56.8	.2815	12 51 E	57 58	.2811	CS.3
Crittenden	31 35	110 44	1903.2	12 42.7 E	58 17.3	.2806	12 49 E	58 19	.2803	CS.3
Tombstone	31 45	110 04	1903.2	12 16.2 E	58 40.2	.2819	12 23 E	58 42	.2816	CS.3
Benson	31 58	110 18	1903.2	12 48.9 E	58 53.5	.2773	12 55 E	58 55	.2770	CS.3
Cochise	32 07	109 55	1903.2	12 45.8 E	58 47.3	.2791	12 52 E	58 49	.2787	CS.3
Tucson	32 14	110 58	1903.2	13 08.1 E	58 54.2	.2783	13 14 E	58 56	.2780	CS.3
Bowie	32 21	109 29	1903.2	12 40.1 E	59 08.9	.2770	12 46 E	59 11	.2767	CS.3
Red Rock	32 35	111 20	1903.2	13 24.8 E	59 31.3	.2739	13 31 E	59 33	.2736	CS.3
Wellton	32 40	114 08	1903.1	13 45.6 E	58 45.7	.2767	13 52 E	58 47	.2764	CS.3
Station 45	32 41	114 05	1851.0	-- ----	58 25	----	-- --	58 55	----	CS.1†
Gila Junction	32 43	114 33	1851.0	12 50 E	58 30	----	14 00 E	59 00	----	CS.d1†
Duncan	32 44	109 06	1903.4	12 23.6 E	59 40.6	.2756	12 28 E	59 42	.2753	CS.3
Mohawk Summit	32 44	113 45	1903.1	13 49.3 E	58 54.1	.2762	13 56 E	58 55	.2759	CS.3

† U. S. & Mex. Bound. Sur., W. H. Emory and T. W. Chandler, observers; Am. Acad. Sc., Vols. V and VI, 1856.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

ARIZONA—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Station 44	32 44	113 50	1851.0	-- ----	58 30	----	-- --	59 02	----	CS.1†
Yuma	32 44	114 37	1905.1	14 07.2 E	58 51.7	.2753	14 07 E	58 52	.2753	CS.5
Solomonsville	32 49	109 38	1903.3	13 12.8 E	59 34.0	.2763	13 18 E	59 36	.2760	CS.3
Station 43	32 49	113 33	1851.0	-- ----	58 43	----	-- --	59 14	----	CS.1†
Station 1	32 50	109 34	1851.0	-- ----	59 19	----	-- --	59 55	----	CS.1†
Station 2	32 50	109 37	1851.0	-- ----	59 12	----	-- --	59 48	----	CS.1†
Sentinel	32 51	113 13	1903.2	14 14.2 E	59 08.9	.2788	14 21 E	59 10	.2785	CS.3
Casa Grande	32 52	111 45	1903.2	13 35.6 E	59 24.8	.2755	13 42 E	59 26	.2752	CS.3
Station 3	32 53	109 44	1851.0	-- ----	59 12	----	-- --	59 48	----	CS.1†
Station 4	32 57	109 49	1851.0	-- ----	59 20	----	-- --	59 56	----	CS.1†
Gila Bend	32 57	112 44	1903.2	13 40.1 E	59 09.2	.2757	13 46 E	59 11	.2753	CS.3
Station 42	32 58	113 11	1851.0	-- ----	59 17	----	-- --	59 55	----	CS.1†
Station 20	32 59	110 40	1851.0	12 25 E	59 11	----	13 07 E	59 48	----	CS.d1†
Station 39	32 59	112 43	1851.0	-- --	58 49	----	-- --	59 27	----	CS.1†
Station 38	33 00	112 39	1851.0	-- --	58 53	----	-- --	59 31	----	CS.1†
Station 28	33 01	111 23	1851.0	-- --	59 16	----	-- --	59 55	----	CS.1†
Florence	33 02	111 24	1903.2	13 43.5 E	59 34.1	.2732	13 50 E	59 36	.2729	CS.3
Station 40	33 02	112 55	1851.0	-- ----	59 16	----	-- --	59 54	----	CS.1†
Clifton	33 03	109 18	1903.4	11 51.7 E	60 21.3	.2692	11 56 E	60 23	.2689	CS.3
Fort Thomas	33 03	109 59	1903.2	12 50.5 E	59 41.3	.2760	12 56 E	59 43	.2757	CS.3
Station 21	33 03	110 46	185r.0	-- ----	58 59	----	-- --	59 38	----	CS.1†
Station 27	33 03	111 16	1851.0	-- ----	59 20	----	-- --	59 58	----	CS.1†
Maricopa	33 03	112 03	1903.2	13 34.2 E	59 26.7	.2744	13 41 E	59 28	.2741	CS.3
Station 5	33 04	109 55	1851.0	-- ----	59 27	----	-- --	60 04	----	CS.1†
Station 26	33 04	111 11	1851.0	-- ----	59 25	----	-- --	60 04	----	CS.1†
Station 29	33 04	111 34	1851.0	-- ----	59 06	----	-- --	59 45	----	CS.1†
Station 19	33 05	110 35	1851.0	-- ----	59 05	----	-- --	59 44	----	CS.1†
Station 22	33 05	110 50	1851.0	-- ----	59 13	----	-- --	59 52	----	CS.1†
Station 6	33 06	110 00	1851.0	-- ----	59 38	----	-- --	60 17	----	CS.1†
Station 24	33 06	111 02	1851.0	-- ----	59 20	----	-- --	59 59	----	CS.1†
Station 23	33 07	110 55	1851.0	-- ----	59 23	----	-- --	60 02	----	CS.1†
Station 30	33 08	111 44	1851.0	12 52 E	59 06	----	13 52 E	59 45	----	CS.d1†
Station 12	33 09	110 26	1851.0	-- --	59 37	----	-- --	60 16	----	CS.1†
Station 13	33 09	110 28	1851.0	-- --	58 58	----	-- --	59 37	----	CS.1†
Station 15	33 09	110 31	1851.0	-- --	59 28	----	-- --	60 07	----	CS.1†
Station 32	33 09	111 57	1851.0	-- --	59 22	----	-- --	60 01	----	CS.1†
Station 7	33 10	110 03	1851.0	-- --	59 42	----	-- --	60 21	----	C.S1†
Station 31	33 10	111 54	1851.0	-- --	59 28	----	-- --	60 07	----	CS.1†
Station 8	33 12	110 10	1851.0	-- --	59 37	----	-- --	60 16	----	CS.1†
Station 10	33 12	110 19	1851.0	-- --	59 34	----	-- --	60 13	----	CS.1†
San Carlos	33 12	110 21	1903.2	13 00.1 E	60 00.3	.2742	13 06 E	60 02	.2739	CS.3
Station 17	33 12	110 42	1851.0	-- ----	59 23	----	-- --	60 02	----	CS.1†
Station 9	33 13	110 19	1851.0	-- ----	59 45	----	-- --	60 24	----	CS.1†
Globe	33 24	110 47	1903.2	13 37.1 E	59 39.0	.2752	13 43 E	59 41	.2749	CS.3
Phoenix	33 31	112 03	1903.0	13 38.8 E	59 47.7	.2736	13 45 E	59 50	.2733	CS.3
Hot Springs Junction	33 52	112 40	1903.1	13 46.4 E	60 26.0	.2683	13 52 E	60 28	.2680	CS.3
Congress	34 11	112 51	1903.1	14 01.1 E	60 44.1	.2702	14 08 E	60 46	.2698	CS.3
Williams River	34 13	113 33	1854.1	13 41 E	60 08	.2781	14 40 E	60 38	.2680	CS.d1‡
Camp 123	34 14	113 39	1854.1	-- --	60 10	.2768	-- --	60 39	.2667	CS.1‡
Williams River	34 17	113 26	1854.1	13 24 E	60 14	.2777	14 23 E	60 44	.2676	CS.d1‡
Camp 126	34 17	113 56	1854.1	-- --	60 11	.2765	-- --	60 40	.2664	CS.1‡
On Colorado R.	34 23	114 06	1854.1	14 08 E	60 34	.2739	15 09 E	61 00	.2638	CS.1‡
Mayer	34 26	112 15	1903.1	13 55.8 E	60 49.6	.2662	14 02 E	60 51	.2659	CS.3
Kirkland	34 26	112 45	1903.1	13 49.2 E	60 50.7	.2677	13 55 E	60 52	.2674	CS.3
Camp 129	34 27	114 11	1854.1	-- ----	60 35	.2740	-- --	61 02	.2639	CS.1‡
Williams River	34 32	113 28	1854.1	13 58 E	60 44	.2727	14 57 E	61 14	.2626	CS.d1‡
Prescott	34 34	112 30	1903.1	13 54.5 E	60 58.8	.2652	14 00 E	61 01	.2648	CS.3
Williams River	34 36	113 28	1854.1	14 02 E	60 36	.2730	15 01 E	61 06	.2629	CS.d1‡
Camp 130	34 36	114 16	1854.1	13 51 E	60 30	.2747	14 53 E	60 56	.2646	CS.d1‡
Camp 132	34 46	114 23	1854.2	13 36 E	60 48	.2724	14 38 E	61 14	.2623	CS.d1‡
Jerome Junction	34 48	112 26	1903.1	14 02.6 E	61 21.0	.2636	14 08 E	61 23	.2633	CS.3
Camp 135	34 52	114 32	1854.2	13 56 E	60 57	.2723	14 58 E	61 23	.2622	CS.d1‡
Little Colorado R.	34 53	110 04	1853.9	13 42 E	62 15	.2667	14 09 E	62 42	.2565	CS.d1‡
Holbrook	34 55	110 10	1903.2	13 35.5 E	62 36.1	.2567	13 41 E	62 38	.2563	CS.3
Pueblo Creek	34 56	112 46	1854.1	13 59 E	61 13	.2726	14 50 E	61 41	.2625	CS.d1‡
Near Puerco R	34 58	109 52	1853.9	14 00 E	61 46	.2707	14 27 E	62 13	.2605	CS.d1‡

† U. S. & Mex. Bound. Sur., W. H. Emory and T. W. Chandler, observers; Am. Acad. Sc., Vols. V and VI, 1856
‡ J. C. Ives and A. W. Whipple, observers; C. & G. S. Report, 1856, p. 222.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

ARIZONA—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Williams River	34 59	112 57	1854.1	14 48 E	61 06	.2730	15 39 E	61 34	.2629	CS.d1†
Little Colorado R.	35 00	110 25	1853.9	13 40 E	61 54	.2691	14 13 E	62 21	.2589	CS.d1†
Do.	35 01	110 30	1853.9	13 21 E	61 41	.2706	13 54 E	62 08	.2604	CS.d1†
Big Horse Spring	35 01	113 36	1854.1	14 18 E	61 02	.2709	15 17 E	61 30	.2608	CS.d1†
Lithodendron Creek	35 02	109 41	1853.9	13 33 E	61 57	.2688	13 53 E	62 24	.2584	CS.d1†
Winslow	35 02	110 43	1903.2	14 25.6 E	62 01.1	.2600	14 31 E	62 03	.2597	CS.3
Jacobs Well	35 04	109 14	1853.9	13 44 E	61 59	.2699	14 00 E	62 26	.2595	CS.d1†
Little Colorado R.	35 05	110 33	1854.0	-- --	61 44	.2699	-- --	62 11	.2598	CS.1†
Navajo Spring	35 06	109 20	1853.9	13 23 E	61 58	.2702	13 39 E	62 25	.2600	CS.d1†
Carriso Creek	35 06	109 32	1853.9	13 54 E	62 05	.2687	14 12 E	62 34	.2585	CS.d1†
Williams River	35 07	113 13	1854.1	13 40 E	61 17	.2665	14 39 E	61 45	.2564	CS.d1†
White Cliff Creek	35 08	113 31	1854.1	14 42 E	60 48	.2755	15 41 E	61 16	.2654	CS.d1†
Navajo	35 09	109 33	1903.2	13 43.4 E	62 24.4	.2594	13 49 E	62 26	.2591	CS.3
Little Colorado R.	35 12	110 37	1854.0	13 39 E	61 45	.2708	14 12 E	62 12	.2607	CS.d1†
Head, White Cliff ck.	35 12	113 21	1854.1	-- --	61 14	.2738	-- --	61 42	.2637	CS.1†
Flagstaff	35 14	111 39	1903.2	14 03.3 E	61 44.9	.2634	14 09 E	61 47	.2631	CS.3
Kingman	35 14	114 03	1903.1	14 34.5 E	61 33.7	.2614	14 40 E	61 35	.2611	CS.3
Ash Fork	35 16	112 30	1903.0	15 07.2 E	62 28.4	.2567	15 13 E	62 30	.2564	CS.3
Williams	35 17	112 11	1903.0	14 15.2 E	61 50.5	.2609	14 21 E	61 52	.2606	CS.3
Saroux Spring	35 17	111 39	1854.0	13 52 E	61 33	.2711	14 38 E	62 01	.2610	CS.d1†
Little Colorado R.	35 18	110 53	1854.0	13 42 E	61 55	.2691	14 15 E	62 20	.2590	CS.d1†
Do.	35 21	110 56	1854.0	-- --	62 03	.2697	-- --	62 28	.2596	CS.1†
Cedar Creek	35 21	112 20	1854.0	13 49 E	62 06	.2688	14 35 E	62 34	.2587	CS.d1†
Seligman	35 22	112 53	1903.1	10 22.1 E	61 38.6	.2588	10 28 E	61 40	.2584	CS.3
Seligman A	35 22	112 53	1903.1	12 07.8 E	-- --	----	12 14 E	-- --	----	CS.3
Seligman B	35 22	112 53	1903.1	12 42.3 E	-- --	----	12 48 E	-- --	----	CS.3
Seligman C	35 22	112 53	1903.1	12 59.2 E	-- --	----	13 05 E	-- --	----	CS.3
Hackberry	35 24	113 45	1903.1	14 48.2 E	61 32.9	.2618	14 54 E	61 35	.2615	CS.3
Peach Springs	35 33	113 26	1903.1	15 19.7 E	61 58.6	.2602	15 26 E	62 00	.2599	CS.3
Grand Canyon	36 06	112 07	1903.1	14 21.8 E	62 43.2	.2565	14 27 E	62 45	.2562	CS.3

ARKANSAS

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Camden	33 35	92 50	1901.3	6 49.4 E	63 29.2	.2572	6 57 E	63 38	.2559	CS.d2
Monticello	33 37	91 46	1901.3	6 14.5 E	63 44.8	.2558	6 21 E	63 53	.2545	CS.d2
Murfreesboro	34 04	93 42	1901.4	7 08.1 E	63 49.9	.2553	7 16 E	63 58	.2540	CS.d2
De Queen	34 04	94 18	1905.9	7 30.8 E	63 47.2	.2546	7 28 E	63 45	.2549	CS.6
Pine Bluff	34 15	92 01	1901.3	6 27.2 E	64 20.6	.2520	6 34 E	64 28	.2507	CS.d2
Malvern	34 22	92 49	1901.4	6 05.1 E	63 44.5	.2594	6 11 E	63 52	.2581	CS.d2
Helena	34 32	90 35	1890.4	6 06.5 E	64 33.3	.2514	5 50 E	64 47	.2479	CS.d1
Mount Ida	34 35	93 37	1905.9	7 04.2 E	64 27.5	.2513	7 02 E	64 26	.2516	CS.6
Mena	34 36	94 14	1905.9	7 31.2 E	64 23.2	.2518	7 29 E	64 21	.2521	CS.6
Clarendon	34 42	91 19	1905.9	6 39.3 E	65 00.5	.2468	6 37 E	64 59	.2471	CS.6
Little Rock	34 44	92 16	1896.3	6 48.8 E	64 48.8	.2466	6 50 E	65 02	.2442	CS.d1
Little Rock, Fort	34 47	92 18	1901.4	6 37.4 E	64 45.1	.2478	6 44 E	64 53	.2466	CS.d2
Waldron	34 56	94 06	1905.9	7 36.6 E	64 58.6	.2480	7 34 E	64 57	.2483	CS.6
Perryville	35 01	92 50	1905.9	6 37.6 E	65 09.4	.2471	6 35 E	65 08	.2474	CS.6
Forrest City	35 02	90 48	1905.9	5 36.0 E	65 46.9	.2398	5 34 E	65 45	.2401	CS.6
Danville	35 05	93 25	1905.9	7 12.6 E	65 19.1	.2453	7 10 E	65 17	.2456	CS.6
Marion	35 14	90 13	1903.0	5 59.5 E	65 47.6	.2423	6 02 E	65 52	.2419	CS.3
Searcy	35 16	91 45	1905.9	6 03.7 E	65 49.3	.2414	6 02 E	65 48	.2417	CS.6
Russellville	35 16	93 08	1905.4	7 26.4 E	65 29.4	.2429	7 25 E	65 29	.2430	CS.5
Van Buren	35 27	94 22	1905.4	7 39.2 E	65 34.6	.2431	7 38 E	65 34	.2432	CS.5
Clarksville	35 29	93 32	1905.9	7 00.0 E	65 41.3	.2441	6 58 E	65 40	.2444	CS.6
Heber	35 31	92 01	1905.9	6 31.8 E	66 02.0	.2386	6 30 E	66 00	.2389	CS.6
Newport	35 36	91 16	1901.5	5 24.1 E	66 15.8	.2380	5 30 E	66 23	.2367	CS.d2
Clinton	35 37	92 26	1905.9	6 49.8 E	66 09.2	.2383	6 47 E	66 07	.2386	CS.6
Batesville	35 47	91 39	1901.5	6 29.7 E	66 19.6	.2380	6 35 E	66 26	.2367	CS.d2
Jonesboro	35 49	90 43	1901.4	5 19.3 E	66 36.0	.2374	5 24 E	66 44	.2362	CS.d2
Marshall	35 56	92 38	1905.9	6 43.6 E	66 32.8	.2336	6 41 E	66 31	.2339	CS.6
Jasper	36 00	93 12	1905.8	6 46.9 E	66 04.0	.2388	6 45 E	66 02	.2391	CS.6
Walnut Ridge	36 04	90 59	1901.4	5 35.5 E	66 30.6	.2374	5 40 E	66 37	.2362	CS.d2
Evening Shade	36 04	91 38	1901.5	6 20.2 E	66 32.1	.2358	6 26 E	66 39	.2346	CS.d2
Paragould	36 05	90 32	1901.4	5 53.1 E	66 34.0	.2367	5 57 E	66 41	.2355	CS.d2

† J. C. Ives and A. W. Whipple, observers; C. & G. S. Report, 1855, p. 222.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

ARKANSAS—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Huntsville	36 05	93 43	1905.9	7 32.5 E	66 15.5	.2370	7 30 E	66 14	.2373	CS.6
Yellville	36 14	92 42	1905.8	7 49.4 E	66 46.8	.2333	7 47 E	66 45	.2336	CS.6
Harrison	36 15	93 07	1905.8	7 05.8 E	66 43.5	.2338	7 04 E	66 42	.2340	CS.6
Hardy	36 20	91 28	1905.8	6 27.6 E	66 48.6	.2318	6 26 E	66 47	.2320	CS.6
Mountain Home	36 21	92 21	1905.8	6 41.4 E	66 46.5	.2333	6 40 E	66 45	.2336	CS.6
Bentonville	36 22	94 12	1905.4	7 16.6 E	66 20.0	.2378	7 16 E	66 19	.2380	CS.5
Salem	36 24	91 51	1905.8	5 58.6 E	66 50.2	.2330	5 57 E	66 49	.2333	CS.6
Corning	36 25	90 35	1901.4	5 53.9 E	67 04.9	.2313	5 58 E	67 11	.2300	CS.d2

CALIFORNIA

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Calexico	32 40	115 31	1905.2	14 04.9 E	58 37.9	.2753	14 04 E	58 38	.2753	CS.5
San Diego, City Park	32 43	117 10	1892.1	13 56.4 E	58 01.6	.2795	14 26 E	58 05	.2775	CS.d1
San Diego, Pt. Loma	32 42	117 14	1905.3	14 00.8 E	58 06.3	.2769	14 00 E	58 06	.2769	CS.5
San Diego, C. I.	32 43	117 12	1905.8	14 43.0 E	58 05.0	.2775	14 40 E	58 05	.2776	CI.
Holtville	32 48	115 24	1905.1	14 13.4 E	58 37.6	.2757	14 13 E	58 38	.2758	CS.5
Imperial	32 51	115 37	1905.2	14 14.4 E	58 41.2	.2750	14 14 E	58 41	.2750	CS.5
Foster	32 54	116 55	1897.1	14 21.8 E	58 50.0	.2726	14 44 E	58 52	.2715	CS. d1
Escondido	33 08	117 05	1905.3	15 26.0 E	59 18.8	.2736	15 25 E	59 19	.2736	CS.5
Oceanside	33 12	117 24	1897.1	14 56.6 E	58 35.7	.2769	15 20 E	58 37	.2758	CS.d1
Temecula	33 30	117 09	1905.2	14 30.4 E	59 08.9	.2701	14 30 E	59 09	.2701	CS.5
Capistrano	33 30	117 40	1897.1	14 31.1 E	59 00.5	.2745	14 56 E	59 02	.2734	CS.d1
Newport Beach	33 36	117 55	1897.1	14 30.6 E	59 02.3	.2743	14 55 E	59 02	.2732	CS.d1
Elsinore	33 40	117 20	1897.2	13 53.4 E	60 15.0	.2701	14 18 E	60 15	.2690	CS.d1
Indio	33 44	116 14	1905.2	14 45.0 E	59 19.8	.2722	14 44 E	59 20	.2722	CS.5
San Pedro	33 44	118 17	1897.1	14 32.2 E	59 04.4	.2724	14 57 E	59 04	.2713	CS.d1
San Jacinto	33 47	116 57	1897.1	14 11.3 E	59 22.8	.2729	14 36 E	59 23	.2718	CS.d1
Los Angeles, SE base	33 47	117 57	1890.3	13 25.6 E	-- ----	.2746	14 00 E	-- --	.2723	CS.d1
Dominguez Hill	33 52	118 14	1870.2	15 20.8 E	58 49.2	.2792	16 10 E	58 50	.2716	CS.d1
Los Angeles, NW base	33 55	118 04	1890.4	14 27.2 E	-- ----	.2730	15 01 E	-- --	.2706	CS.d1
Banning	33 56	116 55	1905.2	14 45.5 E	59 24.2	.2715	14 45 E	59 24	.2715	CS 5
Santa Monica	34 01	118 30	1897.1	14 34.7 E	59 15.8	.2726	15 00 E	59 16	.2715	CS.d1
Redlands	34 03	117 08	1905.2	15 02.6 E	59 39.6	.2693	15 02 E	59 40	.2693	CS.5
Los Angeles, Elysian Park	34 04	118 15	1906.0	15 14.2 E	59 30.9	.2690	15 10 E	59 31	.2692	CS.6
San Bernardino	34 06	117 16	1905.2	15 03.6 E	59 38.3	.2694	15 03 E	59 38	.2695	CS.5
North Pomona	34 06	117 45	1897.1	14 41.7 E	59 37.7	.2667	15 06 E	59 38	.2656	CS.d1
Mount Wilson	34 13	118 04	1906.0	15 06.3 E	59 39.0	.2684	15 03 E	59 39	.2685	CS.6
Ventura	34 17	119 18	1897.0	14 48.3 E	59 37.4	.2700	15 13 E	59 37	.2689	CS.d2
Saugus	34 24	118 33	1897.0	14 48.3 E	59 50.0	.2691	15 13 E	59 50	.2680	CS.d2
Santa Barbara	34 25	119 42	1897.0	14 58.4 E	59 38.6	.2684	15 23 E	59 39	.2673	CS.d2
Pt. Conception	34 27	120 27	1872.9	14 51.8 E	58 51.0	.2723	15 39 E	58 55	.2654	CS.d1
Bagdad	34 35	115 53	1897.0	14 29.6 E	60 27.8	.2685	14 54 E	60 28	.2674	CS.d1
Oro Grande	34 35	117 20	1897.1	15 18.7 E	60 31.2	.2663	15 44 E	60 31	.2652	CS.d1
Palmdale	34 35	118 07	1897.0	14 50.8 E	59 55.8	.2684	15 16 E	59 56	.2673	CS.d2
Stedman	34 37	116 11	1905.3	15 21.2 E	60 19.4	.2657	15 20 E	60 19	.2657	CS.5
Los Olivos	34 40	120 07	1897.0	15 12.1 E	59 47.4	.2679	15 38 E	59 46	.2668	CS.d2
Needles	34 50	114 36	1895.2	14 13.7 E	60 56.1	.2647	14 40 E	60 59	.2633	CS.d1
Barstow	34 54	117 02	1906.4	15 29.6 E	60 28.6	.2641	15 25 E	60 29	.2642	CS.6
Blake	34 55	115 04	1897.1	14 41.1 E	60 35.9	.2658	15 04 E	60 38	.2647	CS.d1
Santa Maria	34 58	120 26	1897.0	15 28.1 E	59 44.1	.2691	15 54 E	59 44	.2680	CS.d2
Kramer	34 59	117 36	1897.0	14 57.3 E	60 27.0	.2654	15 21 E	60 27	.2643	CS.d1
Kelso	35 00	115 40	1906.4	14 47.8 E	60 45.9	.2643	14 43 E	60 46	.2646	CS.6
Soda Lake	35 03	115 59	1854.2	13 51 E	61 07	.2706	15 03 E	61 22	.2606	CS.d1†
Mojave	35 03	118 10	1897.1	15 00.6 E	60 26.5	.2662	15 24 E	60 26	.2651	CS.d2
Pai-ute Creek	35 06	114 54	1854.2	14 17 E	61 10	.2704	15 29 E	61 26	.2604	CS.d1†
Sand Camp	35 06	115 46	1854.2	-- ----	60 49	.2730	-- --	61 06	.2630	CS.d1†
Port Harford	35 10	120 45	1897.0	15 06.0 E	60 27.2	.2665	15 34 E	60 26	.2654	CS.d2
Marl Spring, near	35 11	115 33	1854.2	13 59 E	60 56	.2710	15 11 E	61 12	.2610	CS.d1†
San Luis Obispo	35 11	120 44	1881.3	15 36.7 E	60 30.0	.2689	16 20 E	60 35	.2646	CS.d1
Manvel	35 17	115 14	1897.0	16 02.8 E	61 21.5	.2641	16 28 E	61 26	.2630	CS.d1
Caliente	35 18	118 38	1897.1	15 09.0 E	60 39.0	.2646	15 33 E	60 38	.2635	CS.d2
Asphalto	35 19	119 36	1897.1	15 35.7 E	60 30.8	.2653	16 02 E	60 30	.2642	CS.d2
Randsburg	35 22	117 40	1905.3	15 32.0 E	60 41.4	.2638	15 31 E	60 41	.2639	CS.5

†J. C. Ives and A. W. Whipple, observers; C. & G. S. Report 1856. p. 222.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

CALIFORNIA—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Bakersfield	35 23	119 02	1905.3	15 49.4 E	60 42.5	.2639	15 48 E	60 42	.2639	CS.5
Santa Margarita	35 23	120 37	1897.0	15 54.1 E	60 00.5	.2671	16 22 E	59 59	.2661	CS.d2
Delano	35 47	119 16	1897.1	15 34.9 E	61 51.5	.2586	16 00 E	61 50	.2576	CS.d2
Bradley	35 51	120 48	1897.0	15 59.0 E	60 42.4	.2636	16 27 E	60 40	.2626	CS.d2
San Lucas	36 08	121 01	1897.0	16 02.1 E	60 56.0	.2619	16 31 E	60 54	.2609	CS.d2
Huron	36 13	120 06	1897.1	16 05.8 E	61 22.9	.2611	16 34 E	61 20	.2601	CS.d2
Visalia	36 21	119 17	1897.1	15 59.1 E	61 16.4	.2629	16 25 E	61 14	.2619	CS.d2
Soledad	36 26	121 20	1896.9	16 14.8 E	61 13.6	.2602	16 44 E	61 11	.2594	CS.d2
Mount Toro	36 32	121 36	1885.1	15 56.8 E	-- ----	.2612	16 43 E	-- --	.2584	CS.d1
Monterey, near redoubt	36 36	121 54	1896.0	16 14.6 E	61 15.9	.2597	16 47 E	61 13	.2587	CS.d1
Point Pinos	36 38	121 56	1873.6	15 55.3 E	61 12.5	.2626	16 50 E	61 14	.2574	CS.d1
Salinas	36 40	121 40	1896.9	16 17.7 E	61 27.9	.2593	16 48 E	61 26	.2585	CS.d2
Fresno	36 44	119 48	1905.6	16 23.9 E	61 44.2	2552	16 21 E	61 45	2552	CS.6
Do.	36 44	119 48	1897.1	15 53.3 E	61 48.0	.2564	16 22 E	61 46	.2557	CS.d2
Mendota	36 46	120 22	1897.1	16 13.9 E	61 38.6	.2608	16 43 E	61 36	.2601	CS.d2
Hollister	36 51	121 28	1896.9	16 09.1 E	61 40.8	.2574	16 40 E	61 38	.2566	CS.d2
Santa Cruz	36 57	122 02	1904.3	16 53.0 E	61 39.0	.2570	16 56 E	61 39	.2569	CS.4
Madera	36 59	120 03	1897.2	15 32.2 E	62 22.8	.2515	16 00 E	62 20	.2508	CS.d2
Volta	37 07	120 56	1897.1	17 05.1 E	61 41.8	.2594	17 35 E	61 39	.2587	CS.d2
Loma Prieta	37 07	121 51	1884.2	16 06.1 E	-- ----	.2578	16 56 E	-- --	.2552	CS.d1
Merced	37 18	120 28	1897.2	15 33.4 E	63 12.5	.2489	16 01 E	63 10	.2482	CS.d2
San Jose	37 18	121 52	1906.4	18 16.6 E	61 28.0	.2624	18 10 E	61 29	.2626	CS.6
Mt. Hamilton, Lick Obsy.	37 20	121 38	1900.9	16 28.5 E	61 44.8	.2566	16 46 E	61 43	.2561	CS.d2
Sierra Morena	37 24	122 18	1884.0	16 38.6 E	-- ----	.2555	17 28 E	-- --	.2528	CS.d1
Palo Alto	37 26	122 10	1904.3	17 14.6 E	61 53.6	.2550	17 18 E	61 54	.2549	CS.4
Mocho	37 29	121 33	1887.6	16 35.4 E	-- ----	.2582	17 22 E	-- --	.2562	CS.d1
Modesto	37 38	120 59	1897.2	16 26.0 E	62 57.4	.2514	16 56 E	62 55	.2507	CS.d2
Altamont	37 45	121 40	1897.2	17 11.4 E	62 26.8	.2536	17 41 E	62 26	.2529	CS.d2
San Francisco, Presidio	37 48	122 27	1898.2	16 55.0 E	62 26.5	.2513	17 22 E	62 24	.2508	CS.d2
San Francisco, Presidio △	37 48	122 28	1905.9	17 02.5 E	62 48.8	.2481	16 59 E	62 49	.2482	CS.6
Goat Island	37 49	122 22	1905.6	17 33.3 E	62 05.7	.2529	17 31 E	62 06	.2530	CI.
Do.	37 49	122 22	1906.4	17 43.6 E	62 05.3	.2531	17 37 E	62 06	.2532	CS.6
Berkeley	37 52	122 16	1904.3	17 38.6 E	62 17.9	.2531	17 41 E	62 18	.2530	CS.4
Do.	37 52	122 16	1905.6	17 31.8 E	62 10.1	.2524	17 29 E	62 11	.2525	CI.
Mount Diablo	37 53	121 55	1884.9	16 42.5 E	-- ----	.2555	17 32 E	-- --	.2530	CS.d1
Mount Tamalpais	37 55	122 36	1879.8	16 00 E	-- ----	----	16 51 E	-- --	----	CS.d
Mount Conness	37 58	119 19	1890.7	15 15.4 E	-- ----	.2416	15 47 E	-- --	.2398	CS.d1
Stockton	37 59	121 17	1906.5	17 35.4 E	62 56.4	.2510	17 30 E	62 57	.2512	CS.7
San Rafael	37 59	122 33	1897.7	17 11.3 E	62 22.2	.2524	17 40 E	62 20	.2518	CS.d2
Do.	37 59	122 33	1905.6	17 38.6 E	62 13.0	.2517	17 36 E	62 13	.2518	CI.
Punta de los Reyes	38 00	122 59	1853.1	15 35 E	-- ----	----	17 17 E	-- --	----	CS.d
Milton	38 03	120 51	1897.2	15 37.6 E	63 17.9	.2467	16 06 E	63 15	.2458	CS.d2
Mare I. Navy-Yd.	38 06	122 16	1887.3	17 07.6 E	62 23.0	.2610	17 54 E	62 20	.2590	CS.d1
Tomales Bay	38 11	122 57	1857.1	16 00.4 E	-- ----	----	17 31 E	-- --	----	CS.d
Fairfield	38 15	122 02	1897.7	17 33.0 E	62 43.3	.2512	18 02 E	62 40	.2506	CS.d2
Napa	38 17	122 15	1898.1	17 38.4 E	63 04.3	.2457	18 06 E	63 02	.2452	CS.d2
Bodega	38 18	123 01	1860.6	16 18.8 E	-- ----	.2563	17 40 E	-- --	[.2483]	CS.d1
Vaca	38 22	122 05	1880.9	17 11.6 E	-- ----	.2525	18 02 E	-- --	.2492	CS.d1
Santa Rosa	38 27	122 43	1897.5	17 28.5 E	62 52.7	.2490	17 58 E	62 50	.2483	CS.d2
Ross Mountain	38 30	123 07	1860.0	16 23.2 E	-- ----	----	17 45 E	-- --	----	CS.d
Sacramento	38 33	121 27	1905.3	16 44.1 E	63 35.4	.2438	16 43 E	63 36	.2438	CS.5
Woodland	38 40	121 47	1898.0	18 10.0 E	63 05.0	.2501	18 37 E	63 07	.2495	CS.d2
Monticello	38 40	122 11	1880.8	17 12.8 E	63 14.2	.2499	17 58 E	63 16	.2467	CS.d1
Placerville	38 45	120 48	1897.8	18 20.4 E	63 01.6	.2517	18 46 E	63 04	.2510	CS.d2
Point Arena	38 54	123 42	1889.1	17 12.7 E	62 58.6	.2484	17 57 E	62 54	.2466	CS.d1
Lake Tahoe	38 55	120 05	1879.7	16 48 E	-- ----	----	17 28 E	-- --	----	CS.d
Auburn	38 55	121 04	1897.8	17 40.5 E	63 16.3	.2485	18 06 E	63 18	.2478	CS.d2
Lake Tahoe, SE	38 57	119 57	1895.8	16 57.2 E	63 48.8	.2450	17 24 E	63 52	.2439	CS.d1
Cold Spring	39 01	123 31	1891.8	17 23.6 E	-- ----	----	18 06 E	-- --	----	CS.d
Ukiah	39 08	123 13	1906.5	18 23.7 E	63 09.5	.2458	18 18 E	63 10	.2459	CS.7
Marysville	39 09	121 36	1897.8	16 53.7 E	63 47.8	.2443	17 21 E	63 49	.2435	CS.d2
Colusa	39 12	122 02	1898.0	18 07.2 E	63 40.6	.2468	18 33 E	63 42	.2461	CS.d2
Blue Canyon	39 15	120 47	1881.2	15 38.4 E	64 22.3	.2425	16 21 E	64 24	.2394	CS.d1

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

CALIFORNIA—Continued

Station	Latitude. N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Nevada City	39 17	121 02	1897.7	17 57.1 E	64 55.5	.2362	18 22 E	64 58	.2353	CS.d2
Snow Mtn., west	39 22	122 46	1892.4	18 00.3 E	-- ----	----	18 39 E	-- --	-----	CS.d
Oroville	39 30	121 34	1897.8	17 24.8 E	64 01.4	.2432	17 52 E	64 02	.2424	CS.d2
Willows	39 31	122 12	1898.0	18 14.1 E	63 51.6	.2449	18 41 E	63 53	.2442	CS.d2
Red Bluff	40 12	122 16	1897.8	18 29.6 E	64 49.0	.2386	18 57 E	64 51	.2379	CS.d2
Do.	40 12	122 16	1906.4	19 04.2 E	64 42.6	.2386	18 59 E	64 42	.2387	CS.6
Mount Lassic	40 20	123 33	1892.7	19 38.9 E	-- ----	----	20 18 E	-- --	----	CS.d
Susanville	40 25	120 37	1906.7	19 23.8 E	65 08.3	.2351	19 18 E	65 07	.2352	CS.7
Cape Mendocino	40 26	124 24	1886.3	18 00.5 E	64 23.7	.2403	18 46 E	64 21	.2382	CS.d1
Redding	40 36	122 24	1898.0	18 31.5 E	64 58.0	.2377	18 58 E	64 56	.2371	CS.d2
Humboldt, Red Bluff	40 45	124 13	1854.3	17 04.5 E	-- ----	----	18 44 E	-- --	----	CS.d
Bucksport	40 47	124 12	1853.5	17 06.5 E	-- ----	----	18 46 E	-- --	----	CS.d
Eureka	40 48	124 10	1871.6	18 42.4 E	-- ----	----	19 41 E	-- --	----	CS.d
Montgomery	40 50	121 56	1906.8	19 34.8 E	64 58.8	.2376	19 28 E	64 58	.2378	CS.7
Madeline	41 03	120 28	1906.7	19 50.7 E	64 38.7	.2427	19 45 E	64 38	.2429	CS.7
Bieber	41 07	121 09	1906.8	18 41.4 E	65 46.5	.2317	18 35 E	65 46	.2319	CS.7
Bartle	41 15	121 49	1906.8	20 28.4 E	65 11.3	.2336	20 22 E	65 11	.2337	CS.7
Alturas	41 28	120 30	1906.7	19 01.9 E	65 49.7	.2317	18 55 E	65 49	.2318	CS.7
Yreka *	41 44	122 38	1906.8	23 46.6 E	67 37.9	.2078	23 40 E	67 37	.2079	CS.7

COLORADO

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Conejos	37 06	106 01	1899.9	13 01.8 E	64 45.8	.2480	13 14 E	64 51	.2469	CS.d2
Trinidad, new	37 11	104 31	1903.2	13 47.3 E	65 26.5	.2411	13 53 E	65 29	.2407	CS.3
Trinidad, old*	37 11	104 32	1903.2	14 41.2 E	65 01.1	.2461	14 47 E	65 03	.2457	CS.3
Pagosa Springs	37 15	107 01	1906.7	14 02.6 E	65 09.0	.2426	13 58 E	65 07	.2430	CS.7
Durango	37 17	107 53	1905.8	14 03.9 E	64 46.7	.2436	14 02 E	64 46	.2438	CS.6
Cortez	37 20	108 39	1906.7	14 19.0 E	64 51.8	.2437	14 15 E	64 50	.2440	CS.7
Springfield	37 24	102 36	1900.9	12 36.4 E	65 56.1	.2403	12 48 E	66 02	.2392	CS.d2
Thatcher	37 35	104 08	1903.2	12 36.8 E	65 57.8	.2385	12 43 E	66 00	.2380	CS.3
Walsenburg	37 36	104 48	1906.7	13 28.8 E	65 37.8	.2413	13 25 E	65 36	.2417	CS.7
Del Norte	37 41	106 20	1905.8	14 20.3 E	65 20.0	.2403	14 18 E	65 19	.2405	CS.6
Rico	37 42	107 59	1906.7	13 40.6 E	64 50.2	.2469	13 36 E	64 48	.2472	CS.7
La Junta	38 00	103 34	1903.3	13 21.4 E	66 05.9	.2387	13 27 E	66 08	.2383	CS.3
Uncompahgre	38 04	107 28	1895.6	14 53.7 E	66 23.2	.2380	15 09 E	66 31	.2364	CS.d1
Lamar	38 05	102 37	1900.9	12 04.7 E	66 47.6	.2323	12 15 E	66 53	.2312	CS.d2
Las Animas	38 05	103 14	1903.3	13 02.6 E	66 32.3	.2357	13 08 E	66 34	.2353	CS.3
Pueblo	38 14	104 38	1899.9	12 50.9 E	66 40.6	.2343	13 04 E	66 46	.2331	CS.d2
Plateau	38 23	104 33	1894.6	13 02.5 E	-- ----	----	13 16 E	-- --	----	CS.d
Mount Ouray	38 25	106 14	1894.6	14 17.8 E	67 24.1	.2361	14 32 E	67 32	.2342	CS.d1
Cañon City	38 26	105 15	1906.7	14 03.1 E	66 12.7	.2353	13 59 E	66 11	.2357	CS.7
Sheridan Lake	38 28	102 17	1900.9	12 16.1 E	66 55.6	.2318	12 27 E	67 01	.2307	CS.d2
Montrose	38 29	107 53	1905.8	14 16.6 E	65 59.9	.2365	14 14 E	65 59	.2367	CS.6
Gunnison	38 33	106 56	1886.5	14 43.2 E	66 39.8	.2352	14 43 E	66 49	.2324	CS.d1
Delta	38 44	108 06	1906.6	14 38.0 E	66 07.3	.2340	14 34 E	66 06	.2343	CS.7
Arapahoe	38 46	102 05	1892.6	13 18.0 E	-- ----	----	13 24 E	-- --	----	CS.d
Firstview	38 48	102 32	1892.8	12 15.4 E	-- ----	----	12 22 E	-- --	----	CS.d
Buena Vista	38 48	106 08	1906.7	15 17.2 E	66 15.2	.2389	15 13 E	66 14	.2392	CS.7
Cheyenne Wells	38 49	102 20	1906.5	12 26.1 E	67 15.9	.2280	12 22 E	67 15	.2283	CS.6
Colorado Springs	38 50	104 49	1886.5	14 23.6 E	67 03.5	.2300	14 23 E	67 12	.2272	CS.d1
Pikes Peak	38 50	105 03	1895.6	13 55.0 E	66 55.6	.2305	14 09 E	67 03	.2287	CS.d1
Manitou	38 52	104 55	1878.6	-- ----	66 59.2	.2335	-- --	67 06	.2299	CS.1†
Chiquita	38 54	108 39	1895.4	14 49.4 E	-- ----	.2349	15 07 E	-- --	.2331	CS.d1
Landsman	38 57	102 35	1892.8	12 38 E	-- ----	----	12 45 E	-- --	----	CS.d
Mount Treasury	39 00	107 06	1893.7	14 22.2 E	66 39.0	.2321	14 37 E	66 47	.2301	CS.d1
Monotony	39 02	102 14	1892.7	12 33.5 E	-- ----	----	12 40 E	-- --	-----	CS.d
Grand Junction	39 05	108 33	1905.7	15 07.8 E	66 24.3	.2324	15 05 E	66 24	.2326	CS.6
Mount Elbert	39 07	106 27	1894.6	15 01.1 E	-- ----	----	15 15 E	-- --	----	CS.d
Hugo	39 08	103 29	1906.5	13 03.8 E	67 34.6	.2274	13 00 E	67 34	.2277	CS.6
Aspen	39 12	106 50	1906.7	14 49.2 E	66 26.8	.2332	14 45 E	66 25	.2336	CS.7
Burlington	39 18	102 16	1900.8	12 15.8 E	67 37.7	.2268	12 27 E	67 42	.2259	CS.d2
Deer Trail	39 36	104 03	1906.5	13 30.3 E	67 52.4	.2235	13 26 E	67 51	.2238	CS.6

* Local disturbance.

† T. E. Thorpe, observer; Proc. R. S., No. 200, 1880.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

COLORADO—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Glenwood Springs	39 32	107 20	1905.7	15 54.4 E	66 42.9	.2351	15 52 E	66 42	.2352	CS.6
Do.	39 32	107 20	1906.7	15 59.6 E	-- ----	.2347	15 55 E	-- --	.2351	CS.7
Tavaputs	39 32	109 00	1891.8	14 58.2 E	66 40.0	.2338	15 17 E	66 48	.2317	CS.d1
Redcliff	39 34	106 20	1906.7	14 18.3 E	67 28.0	.2253	14 14 E	67 26	.2256	CS.7
Castle Rock	39 23	104 51	1906.5	14 39.7 E	67 32.0	.2278	14 36 E	67 31	.2281	CS.6
Gerdts	39 42	102 40	1900.8	13 39.2 E	68 25.1	.2220	13 50 E	68 30	.2211	CS.d2
Georgetown	39 44	105 44	1905.8	15 32.4 E	67 25.1	.2250	15 30 E	67 24	.2251	CS.6
Denver	39 46	104 54	1899.9	14 01.8 E	67 36.5	.2256	14 12 E	67 42	.2246	CS.d2
Do.	39 46	104 54	1905.8	-- ----	67 38.9	.2247	-- --	67 38	.2249	CS.6
Boulder	39 55	105 16	1906.8	14 23.3 E	67 47.6	.2239	14 19 E	67 46	.2242	CS.7
Meeker	40 01	107 54	1906.7	15 30.3 E	67 28.5	.2250	15 26 E	67 27	.2253	CS.7
Wray	40 05	102 12	1906.5	12 52.5 E	68 16.3	.2209	12 49 E	68 15	.2212	CS.7
Sulphur Springs	40 05	106 06	1906.7	15 16.4 E	68 00.2	.2208	15 12 E	67 59	.2211	CS.7
Topenas	40 06	106 48	1906.7	14 37.3 E	67 33.0	.2247	14 33 E	67 32	.2250	CS.7
Yuma	40 08	102 41	1900.8	12 58.4 E	68 18.3	.2221	13 08 E	68 23	.2212	CS.d2
Akron	40 10	103 13	1900.8	13 06.4 E	68 29.4	.2201	13 16 E	68 34	.2193	CS.d2
Fort Morgan	40 17	103 48	1906.5	14 15.1 E	68 29.6	.2202	14 11 E	68 29	.2205	CS.6
Greeley	40 28	104 41	1906.8	14 04.9 E	68 24.4	.2195	14 01 E	68 23	.2198	CS.7
Steamboat Springs	40 31	106 50	1906.7	16 17.8 E	67 59.5	.2221	16 14 E	67 58	.2224	CS.7
Craig	40 31	107 31	1906.7	15 30.4 E	67 55.6	.2224	15 26 E	67 54	.2227	CS.7
Holyoke	40 35	102 17	1906.5	13 36.2 E	69 07.4	.2154	13 33 E	69 06	.2157	CS.7
Sterling	40 37	103 13	1900.8	13 03.9 E	69 10.1	.2165	13 12 E	69 14	.2156	CS.d2
Fort Collins	40 38	105 07	1906.8	15 05.2 E	68 40.0	.2174	15 01 E	68 39	.2178	CS.7
Hahns Peak	40 49	106 57	1906.7	15 44.6 E	68 10.8	.2213	15 40 E	68 09	.2217	CS.7

CONNECTICUT

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Stamford	41 04	73 32	1844.7	6 36.0 W	73 02.3	.1791	10 13 W	71 56	.1827	CS.d1
Round Hill	41 06	73 40	1833.5	5 43 W	-- ----	----	10 03 W	-- --	-----	CS.d
Norwalk	41 07	73 25	1844.7	6 49.4 W	73 09.8	.1818	10 26 W	72 04	.1854	CS.d1
Black Rock	41 09	73 13	1845.7	6 53.5 W	-- ----	----	10 26 W	-- --	-----	CS.d
Bridgeport	41 10	73 11	1845.7	6 19.3 W	73 21.3	.1723	9 52 W	72 12	.1787	CS.d1
Double Beach	41 14	72 51	1884.6	9 25.8 W	72 50.4	.1793	10 36 W	72 20	.1810	CS.d1†
South End	41 14	72 53	1884.6	8 46.2 W	-- ----	----	9 57 W	-- --	-----	CS.d†
Milford	41 14	73 04	1845.7	6 38.3 W	-- ----	----	10 09 W	-- --	-----	CS.d
Lighthouse Point	41 15	72 54	1884.5	- ----	72 46.1	.1797	-- --	72 16	.1814	CS.1†
Saybrook	41 16	72 21	1845.6	6 49.9 W	74 33.8	.1643	10 30 W	73 18	.1712	CS.d1
Tashua	41 16	73 15	1863.7	8 02.5 W	73 00.8	.1792	10 26 W	71 54	.1851	CS.d1
Sachems Head	41 17	72 44	1845.6	6 15.2 W	-- ----	----	9 55 W	-- --	-----	CS.d
Fort Wooster	41 17	72 54	1848.6	7 25.5 W	74 12.6	.1668	10 53 W	73 00	.1739	CS.d1
Oyster Point	41 17	72 56	1855.6	7 02.7 W	73 44.5	.1701	10 02 W	72 30	.1777	CS.d1
Groton Point	41 18	72 05	1845.6	7 29.5 W	72 57.9	-----	11 01 W	71 40	-----	CS.d
New Haven	41 19	72 55	1904.6	10 05.9 W	72 21.0	.1802	10 07 W	72 21	.1802	CS.5
Stonington	41 20	71 56	1906.9	10 50.2 W	72 35.8	.1808	10 44 W	72 38	.1808	CS.7
New London	41 21	72 07	1904.6	10 56.0 W	72 33.8	.1805	10 58 W	72 34	.1804	CS.5
Wooster	41 21	73 29	1864.6	7 37.6 W	73 24.6	.1760	9 57 W	72 20	.1817	CS.d1
Centerville	41 23	72 54	1884.5	9 06.2 W	72 49.9	.1787	10 17 W	72 20	.1803	CS.d1†
Danbury	41 24	73 25	1904.6	10 35.5 W	72 23.3	.1814	10 37 W	72 23	.1813	CS.5
Sandford	41 28	72 57	1862.8	7 01.7 W	73 33.3	.1777	9 28 W	72 24	.1837	CS.d1
Middletown	41 33	72 36	1904.6	10 11.8 W	72 41.0	.1784	10 13 W	72 41	.1783	CS.5
Westfield	41 34	72 43	1891.7	9 46 W	-- ----	----	10 32 W	-- --	----	CS.d
Taylor	41 40	72 35	1891.7	9 28 W	-- ----	----	10 14 W	-- --	----	CS.d
Schoolhouse Hill	41 40	72 41	1891.7	9 49 W	-- ----	----	10 35 W.	-- --	----	CS.d
Litchfield	41 42	73 14	1904.6	11 04.0 W	72 45.5	.1781	11 06 W	72 45	.1780	CS.5
Hartford	41 45	72 40	1904.6	10 39.4 W	72 48.9	.1771	10 41 W	72 49	.1770	CS.5
Do.	41 46	72 40	1890.8	9 01.5 W	73 06.0	.1748	9 48 W	72 48	.1754	CS.d1
Brooklyn	41 47	71 58	1904.6	11 08.0 W	73 01.6	.1749	11 10 W	73 01	.1748	CS.5
Box Hill	41 48	72 27	1861.8	8 30.4 W	73 57.9	.1726	11 04 W	72 44	.1789	CS.d1
Ivy	41 52	73 14	1863.5	8 25.7 W	73 32.0	.1748	10 54 W	72 25	.1801	CS.d1
Tolland	41 53	72 22	1904.6	10 27.9 W	72 58.7	.1746	10 29 W	72 58	.1746	CS.5
Bald Hill	41 58	72 12	1861.7	8 50.4 W	73 47.5	.1713	11 19 W	72 32	.1777	CS.d1

† The observations were made by O. T. Sherman.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

DELAWARE

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Dagsboro	38 33	75 16	1899.5	5 29.8 W	70 13.0	.2029	5 47 W	70 15	.2016	CS.d2
Seaford	38 38	75 37	1899.5	- ----	70 12.9	.2044	- -- --	70 15	.2031	CS.2
Cape Henlopen	38 47	75 05	1885.6	4 59.6 W	70 39.6	.1985	6 00 W	70 22	.1978	CS.d1
Pilot Town	38 47	75 10	1846.5	2 42.7 W	71 18.5	.1978	6 02 W	70 25	.1991	CS.d1
Delaware Breakwater	38 48	75 06	1903.7	5 45.7 W	-- ----	----	5 50 W	-- --	----	CS.4
Lewes Landing	38 49	75 12	1846.5	2 45.0 W	-- ----	----	6 04 W	-- --	----	CS.d
Harrington	38 55	75 35	1899.5	6 05.6 W	70 29.9	.1999	6 24 W	70 32	.1986	CS.d2
Dover	39 09	75 31	1897.4	6 18.8 W	70 25.4	.1998	6 42 W	70 25	.1982	CS.d2
Bombay Hook	39 22	75 31	1899.5	6 31.8 W	70 45.4	.1972	6 49 W	70 47	.1959	CS.d2
Fort Delaware	39 35	75 34	1846.5	3 16.8 W	71 34.9	.1949	6 42 W	70 42	.1962	CS.d1
Newark	39 41	75 44	1899.5	5 19.6 W	71 04.0	.1973	5 38 W	71 05	.1958	CS.d2
Sawyer	39 42	75 34	1846.4	2 48.3 W	71 57.5	.1925	6 16 W	71 06	.1938	CS.d1
Wilmington 1	39 45	75 33	1905.1	5 15.4 W	71 41.6	.1890	5 15 W	71 42	.1890	CS.5
Wilmington 2*	39 45	75 33	1905.1	10 54.6 W	-- ----	----	10 54 W	-- --	----	CS.5

DISTRICT OF COLUMBIA

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Washington, C. and G. S. Office	38 53	77 00	1905.8	5 19.3 W	69 58.3	.2028	5 16 W	69 57	.2031	CS.6
Washington, Naval Obsy., old site	38 54	77 03	1892.5	4 14.2 W	71 03.9	.1985	4 54 W	71 02	.1960	CS.d1
Washington, Naval Obsy., new site	38 55	77 04	1894.5	3 40.0 W	70 34.3	.1998	4 13 W	70 35	.1976	CS.d1
Washington, near Zoological Park	38 55	77 02	1905.5	4 29.1 W	70 28.3	.2009	4 27 W	70 28	.2010	CS.6

FLORIDA

	° ′	° ′		° ′	° ′	*c. g. s*	° ′	° ′	*c. g. s.*	
Sand Key	24 27	81 53	1849.6	5 28.8 E	54 25.8	.3116	2 41 E	54 52	.2928	CS.d1
Key West	24 34	81 48	1906.2	2 30.3 E	55 00.5	.2938	2 32 E	54 57	.2945	CS.6
Bird Key, Dry Tortugas	24 37	82 54	1880.0	3 42.6 E	54 12.6	.3085	2 38 E	54 33	.2980	CS.d1
Cape Sable base	25 08	81 02	1855.4	5 23 E	-- ----	----	2 52 E	-- --	----	CS.d
Cape Florida, Key Biscayne	25 40	80 10	1850.1	4 25.2 E	56 13.0	.3050	1 39 E	56 38	.2851	CS.d1
Miami	25 47	80 12	1905.5	1 37.2 E	56 33.7	.2873	1 37 E	56 33	.2876	CS.5
Hills	26 16	80 05	1884.0	2 43.1 E	57 01.6	----	1 51 E	57 29	----	CS.d1
Punta Rassa	26 29	82 00	1906.3	1 58.9 E	57 24.0	.2844	2 01 E	57 20	.2851	CS.6
Fort Myers	26 38	81 51	1906.2	2 07.9 E	57 22.9	.2852	2 09 E	57 19	.2859	CS.6
Spencer	26 44	80 02	1884.2	2 51.6 E	-- ----	----	2 00 E	-- --	----	CS.d
Sugar Loaf Beach	26 46	80 56	1906.2	1 17.3 E	58 00.5	.2796	1 19 E	57 57	.2803	CS.6
La Belle	26 46	81 26	1906.2	1 54.7 E	57 57.2	.2825	1 56 E	57 53	.2832	CS.6
Fort Jupiter	26 54	80 05	1880.2	2 50.7 E	57 38.5	.2895	1 46 E	57 58	.2801	CS.d1
Jupiter	26 56	80 03	1906.2	1 41.7 E	58 03.6	.2796	1 43 E	58 00	.2802	CS.6
Punta Gorda	26 57	82 03	1906.3	2 15.5 E	57 56.4	.2810	2 17 E	57 53	.2817	CS.6
Ho. of Refuge, No. 2	27 12	80 10	1883.1	2 35.9 E	57 43.8	.2879	1 40 E	58 06	.2794	CS.d1
Warners Camp	27 12	80 49	1906.2	1 26.4 E	57 48.4	.2826	1 28 E	57 45	.2833	CS.6
Arcadia	27 14	81 52	1903.3	2 00.1 E	58 08.7	.2816	1 58 E	58 15	.2808	CS.3
Miccos Bluff	27 26	81 07	1906.2	2 15.8 E	58 08.7	.2829	2 17 E	58 05	.2835	CS.6
Bell	27 28	80 20	1883.3	2 12.1 E	58 00.9	.2915	1 16 E	58 24	.2826	CS.d1
St. Lucie, Fort Capron	27 29	80 15	1880.2	2 24.9 E	58 16.8	.2903	1 19 E	58 36	.2811	CS.d1
Turkey Hammock	27 48	81 12	1906.1	2 15.7 E	59 13.8	.2716	2 17 E	59 11	.2722	CS.6
St. Petersburg	27 48	82 38	1903.2	2 24.4 E	58 48.8	.2797	2 23 E	58 55	.2787	CS.3
Sebastian	27 49	80 28	1906.2	1 16.5 E	59 27 1	.2748	1 18 E	59 24	.2754	CS.6
Bartow	27 53	81 51	1903.3	1 29.6 E	58 49.9	.2768	1 28 E	58 55	.2759	CS.3
Tampa	27 58	82 28	1903.3	2 12.4 E	59 00.1	.2797	2 11 E	59 05	.2788	CS.3
Turkey Creek	28 04	80 35	1878.3	3 09.1 E	-- ----	----	1 57 E	-- --	----	CS.d
Eau Gallie	28 09	80 37	1903.3	1 05.6 E	58 51.7	.2790	1 04 E	58 56	.2782	CS.3
Tarpon Springs	28 10	82 45	1903.2	1 55.1 E	58 45.3	.2808	1 53 E	58 50	.2799	CS.3
Kissimmee	28 18	81 24	1906.1	1 43.3 E	59 14.6	.2762	1 45 E	59 12	.2768	CS.6
Dade City	28 23	82 11	1903.2	2 01.3 E	59 14.3	.2768	2 00 E	59 19	.2758	CS.6
Orlando	28 33	81 21	1903.3	1 06.6 E	59 02.6	.2800	1 05 E	59 08	.2791	CS.3

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

FLORIDA—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Brooksville	28 35	82 24	1903.2	1 45.4 E	59 23.8	.2775	1 44 E	59 29	.2766	CS.3
Titusville	28 38	80 48	1903.3	0 54.0 E	59 27.8	.2750	0 51 E	59 33	.2741	CS.3
Sumterville	28 46	82 04	1903.3	1 58.8 E	59 51.7	.2734	1 57 E	59 56	.2725	CS.3
Homosassa	28 48	82 37	1903.2	2 09.4 E	59 47.9	.2740	2 08 E	59 53	.2730	CS.3
Tavares	28 49	81 44	1903.3	2 06.5 E	60 14.5	.2714	2 05 E	60 19	.2705	CS.3
Inverness	28 51	82 20	1903.2	2 11.6 E	59 53.2	.2736	2 10 E	59 58	.2727	CS.3
Enterprise	28 53	81 14	1880.1	2 46.1 E	60 07.5	.2791	1 39 E	60 20	.2703	CS.d1
Deland	29 03	81 18	1903.3	1 31.2 E	60 00.3	.2732	1 30 E	60 05	.2723	CS.3
Cedar Keys	29 08	83 02	1900.4	2 35.7 E	59 57.4	.2732	2 30 E	60 10	.2707	CS.d2
Daytona	29 13	81 01	1906.3	1 14.4 E	60 41.9	.2671	1 16 E	60 39	.2678	CS.6
Ocala	29 13	82 08	1903.2	1 55.8 E	60 17.1	.2737	1 54 E	60 22	.2728	CS.3
Cape St. George	29 37	85 06	1853.2	6 02.1 E	-- ----	----	3 17 E	-- --	----	CS.d
Palatka	29 38	81 38	1900.3	1 13.0 E	60 40.4	.2691	1 09 E	60 53	.2666	CS.d2
Gainesville	29 39	82 19	1900.3	2 15.9 E	60 47.5	.2694	2 12 E	61 00	.2669	CS.d2
Cape San Blas	29 40	85 22	1854.1	6 06.5 E	-- ----	----	3 24 E	-- --	----	CS.d
Apalachicola	29 43	84 59	1860.0	6 12.0 E	60 19.4	.2852	3 48 E	60 27	.2733	CS.d1
Dog Island Light	29 47	84 40	1853.3	5 51.2 E	-- ----	----	3 06 E	-- --	----	CS.d
St. Augustine	29 54	81 19	1906.3	1 19.5 E	61 23.3	.2636	1 18 E	61 20	.2643	CS.6
Starke	29 58	82 06	1903.2	2 06.7 E	61 17.5	.2661	2 05 E	61 22	.2652	CS.3
Mayo	30 04	83 12	1903.2	1 48.6 E	61 05.9	.2697	1 47 E	61 11	.2688	CS.3
St. Marks Light	30 04	84 11	1852.3	5 29.2 E	-- ----	----	2 41 E	-- --	----	CS.d
Hurricane Ids.	30 04	85 39	1854.1	6 12.2 E	-- ----	----	3 29 E	-- --	----	CS.d
Perry	30 06	83 35	1900.4	2 21.2 E	61 04.6	.2691	2 16 E	61 17	.2667	CS.d2
St. Marks	30 08	84 11	1875.4	4 30.3 E	-- ----	----	3 04 E	-- --	----	NA.d
Lake City	30 11	82 38	1903.2	1 32.0 E	61 06.4	.2685	1 31 E	61 12	.2676	CS.3
Baldwin	30 18	81 58	1900.3	2 05.6 E	61 25.0	.2652	2 02 E	61 37	.2629	CS.d2
Jacksonville	30 20	81 39	1900.3	1 17.1 E	61 30.3	.2636	1 13 E	61 42	.2613	CS.d2
Live Oak	30 20	83 00	1903.2	1 40.0 E	61 23.9	.2669	1 38 E	61 30	.2660	CS.3
Pensacola Navy Yd.	30 21	87 16	1900.4	4 27.2 E	60 49.8	.2720	4 25 E	61 03	.2698	CS.d2
Pensacola	30 25	87 13	1861.0	6 42.2 E	60 38.9	.2836	4 34 E	60 51	.2718	CS.d1
Tallahassee	30 26	84 18	1900.3	2 21.3 E	61 09.8	.2682	2 16 E	61 21	.2659	CS.d2
Pond	30 27	86 56	1894.2	4 22.0 E	-- ----	----	4 08 E	-- --	----	CS.d
Sand String	30 27	87 06	1894.3	4 50.7 E	-- ----	----	4 37 E	-- --	----	CS.d
Mill Point	30 28	86 56	1894.2	4 26.5 E	-- ----	----	4 12 E	-- --	----	CS.d
Madison	30 29	83 25	1900.3	2 28.9 E	61 20.5	.2663	2 25 E	61 32	.2640	CS.d2
Lindsay	30 30	87 03	1894.3	4 43.6 E	-- ----	----	4 29 E	-- --	----	CS.d
Devil Point	30 30	87 09	1894.3	4 56.0 E	-- ----	----	4 42 E	-- --	----	CS.d
Shield Point	30 35	87 01	1893.1	4 37.2 E	-- ----	----	4 19 E	-- --	----	CS.d
Fernandina	30 40	81 27	1900.3	1 21.1 E	61 48.2	.2627	1 17 E	62 00	.2605	CS.d2
De Funiak Springs	30 43	86 07	1900.4	3 37.9 E	61 19.8	.2686	3 35 E	61 32	.2664	CS.d2
Marianna	30 47	85 13	1900.4	3 42.8 E	61 50.9	.2656	3 39 E	62 03	.2634	CS.d2

GEORGIA

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Valdosta	30 50	83 17	1905.1	2 01.0 E	61 54.8	.2631	2 01 E	61 55	.2632	CS.5
Thomasville	30 50	83 59	1900.3	2 21.5 E	61 36.1	.2660	2 17 E	61 48	.2638	CS.d2
Bainbridge	30 55	84 36	1905.1	2 15.4 E	61 44.7	.2641	2 16 E	61 44	.2642	CS.5
Du Pont	31 00	82 54	1905.1	1 13.9 E	62 06.5	.2616	1 14 E	62 06	.2617	CS.5
Pelham	31 07	84 09	1900.3	2 28.1 E	62 02.7	.2637	2 24 E	62 14	.2614	CS.d2
Brunswick	31 09	81 30	1887.2	1 48.5 E	62 31.9	.2595	1 01 E	62 51	.2536	CS.d1
Way Cross	31 14	82 22	1905.1	1 12.2 E	62 20.9	.2604	1 12 E	62 21	.2605	CS.5
Do.	31 14	82 22	1905.5	1 11.8 E	62 19.7	.2602	1 12 E	62 19	.2604	CS.5
Butler, St. Simons I.	31 18	81 21	1872.2	2 42.9 E	62 46.7	.2657	1 00 E	62 41	.2584	CS.d1
Cedar Point	31 30	81 21	1906.4	0 48.9 E	62 54.0	.2554	0 51 E	62 51	.2561	CS.6
Douglas	31 31	82 52	1905.1	1 35.5 E	63 11.9	.2565	1 36 E	63 12	.2566	CS.5
Albany	31 34	84 08	1900.3	2 05.1 E	62 36.7	.2615	2 01 E	62 48	.2592	CS.d2
Jessup	31 37	81 54	1905.1	0 54.6 E	62 53.3	.2554	0 55 E	62 53	.2555	CS.5
Irwinville	31 39	83 21	1903.1	1 56.0 E	62 52.8	.2552	1 55 E	62 57	.2544	CS.3
Baxley	31 47	82 20	1905.1	1 13.0 E	63 03.1	.2545	1 13 E	63 03	.2546	CS.5
Cuthbert	31 47	84 47	1903.1	2 45.5 E	62 51.1	.2579	2 45 E	62 54	.2570	CS.3
Skiddaway, N. base	31 56	81 02	1856.3	3 25.0 E	-- ----	----	0 41 E	-- --	----	CS.d
Lumber City	31 57	82 45	1875.5	3 10.8 E	-- ----	----	1 36 E	-- --	----	NA.d
Tybee Light	32 02	80 51	1870.4	2 20.5 E	63 27.0	.2613	0 28 E	63 13	.2544	CS.d1
Savannah	32 06	81 05	1903.3	0 42.5 E	63 25.3	.2534	0 40 E	63 29	.2527	CS.3
Reidsville	32 06	82 07	1905.1	1 07.1 E	63 10.0	.2537	1 07 E	63 10	.2538	CS.5
Mount Vernon	32 11	82 35	1905.1	1 34.0 E	63 18.8	.2533	1 34 E	63 19	.2534	CS.5

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

GEORGIA—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Hawkinsville	32 17	83 28	1905.1	1 48.4 E	63 20.8	.2534	1 48 E	63 21	.2535	CS.5
Oglethorpe	32 17	84 04	1900.3	2 11.7 E	63 11.4	.2565	2 10 E	63 21	.2544	CS.d2
Buena Vista	32 20	84 32	1905.1	1 56.2 E	63 19.1	.2556	1 56 E	63 19	.2557	CS.5
Statesboro	32 27	81 47	1904.2	0 51.9 E	63 43.4	.2517	0 51 E	63 45	.2514	CS.4
Dublin	32 33	82 59	1905.1	1 28.8 E	63 34.4	.2528	1 29 E	63 34	.2528	CS.5
Swainsboro	32 36	82 20	1905.0	1 07.5 E	63 56.2	.2512	1 08 E	63 56	.2512	CS.5
Swainsboro (A)	32 36	82 20	1905.0	1 07.0 E	63 51.7	.2512	1 07 E	63 52	.2512	CS.5
Sylvania	32 45	81 42	1905.0	0 34.9 E	64 04.3	.2506	0 35 E	64 04	.2506	CS.5
Sylvania (A)	32 45	81 42	1905.0	0 37.7 E	64 03.1	.2506	0 38 E	64 03	.2506	CS.5
Millen	32 46	81 57	1875.5	2 37.3 E	-- ----	----	1 00 E	-- --	----	NA.d
Macon	32 51	83 37	1905.1	2 01.8 E	64 07.8	.2488	2 02 E	64 08	.2488	CS.5
Thomaston	32 54	84 20	1905.1	1 58.8 E	63 49.0	.2510	1 59 E	63 49	.2510	CS.5
Sandersville	32 59	82 47	1905.1	1 31.4 E	64 29.6	.2465	1 31 E	64 29	.2465	CS.5
Do.	32 59	82 47	1905.1	1 32.2 E	64 28.8	.2465	1 32 E	64 29	.2465	CS.5
Louisville	33 01	82 25	1905.1	1 46.8 E	64 38.3	.2454	1 47 E	64 38	.2454	CS.5
Louisville (A)	33 01	82 25	1905.1	1 45.0 E	64 36.0	.2455	1 45 E	64 36	.2455	CS.5
Milledgeville	33 04	83 16	1900.2	2 41.9 E	64 39.1	.2473	2 37 E	64 49	.2453	CS.d2
Lagrange	33 04	85 02	1905.1	2 08.2 E	64 00.4	.2510	2 08 E	64 00	.2510	CS.5
Waynesboro	33 06	82 01	1905.0	0 49.3 E	64 39.5	.2463	0 49 E	64 40	.2463	CS.5
Do	33 06	82 01	1905.0	0 35.6 E	64 36.4	.2469	0 36 E	64 36	.2469	CS.5
Gibson	33 15	82 35	1905.1	1 27.3 E	64 45.1	.2448	1 27 E	64 45	.2449	CS.5
Do	33 15	82 35	1905.1	1 26.8 E	64 42.7	.2445	1 27 E	64 42	.2446	CS.5
Jackson	33 18	83 58	1905.1	1 41.1 E	64 26.4	.2479	1 41 E	64 26	.2480	CS.5
Warrenton	33 23	82 40	1900.2	1 15.6 E	64 40.4	.2458	1 09 E	64 50	.2439	CS.d2
Augusta	33 28	81 57	1905.0	0 44.3 E	64 58.4	.2429	0 44 E	64 58	.2429	CS.5
Do	33 28	81 57	1905.0	0 38.9 E	64 58.3	.2429	0 39 E	64 58	.2429	CS 5
Carrollton	33 35	85 03	1905.0	2 36.2 E	64 41.5	.2458	2 36 E	64 42	.2458	CS.5
Madison	33 37	83 30	1905.2	1 19.2 E	64 34.6	.2463	1 19 E	64 34	.2464	CS.5
Atlanta	33 44	84 22	1905.0	1 39.9 E	64 50.3	.2454	1 40 E	64 50	.2454	CS.5
Washington	33 45	82 44	1905.2	1 11.1 E	64 50.6	.2434	1 11 E	64 50	.2435	CS.5
Athens	33 58	83 22	1905.2	1 18.4 E	65 13.2	.2419	1 19 E	65 13	.2420	CS.5
Lawrenceville	33 58	84 00	1874.9	3 24.8 E	-- ----	----	1 52 E	-- --	----	CS.d
Kenesaw	33 59	84 35	1873.6	4 43.4 E	66 00.2	.2495	3 06 E	65 59	.2432	CS.d1
Carnes	34 00	85 01	1874.0	4 05.5 E	65 09.6	.2515	2 31 E	65 09	.2453	CS.d1
Sweat	34 04	84 27	1873.8	5 36.9 E	65 29.2	.2509	4 01 E	65 28	.2448	CS.d1
Elberton	34 08	82 47	1905.2	0 49.1 E	65 19.8	.2411	0 49 E	65 19	.2412	CS.5
Cumming	34 12	84 08	1873.9	3 13.5 E	65 23.5	.2512	1 39 E	65 22	.2450	CS.d1
Sawnee	34 14	84 10	1873.8	2 55.0 E	65 26.0	.2489	1 21 E	65 25	.2427	CS.d1
Rome	34 15	85 08	1896.3	2 17.5 E	65 10.7	.2448	2 01 E	65 25	.2417	CS.d1
Gainesville	34 18	83 52	1905.2	1 05.3 E	65 16.4	.2421	1 06 E	65 16	.2422	CS.5
Pine Log	34 19	84 38	1874.6	4 00.0 E	65 33.0	.2494	2 29 E	65 32	.2439	CS.d1
Lavender	34 19	85 17	1874.9	3 58.9 E	65 30.7	.2498	2 28 E	65 30	.2446	CS.d1
Grassy	34 29	84 20	1874.6	3 36.0 E	65 41.8	.2394	2 03 E	65 40	.2339	CS.d1
Skitt	34 30	83 43	1874.6	2 35.5 E	-- ----	----	1 01 E	-- --	----	CS.d
Currahee	34 32	83 23	1874.8	2 47.9 E	65 45.1	.2435	1 12 E	65 44	.2384	CS.d1
Clarkesville	34 37	83 29	1905.2	1 13.8 E	65 50.8	.2388	1 14 E	65 50	.2389	CS.5
Johns	34 37	85 06	1875.1	3 57.1 E	65 42.5	.2484	2 27 E	65 42	.2429	CS.d1
Blue Ridge	34 52	84 21	1905.2	1 50.4 E	66 05.4	.2364	1 50 E	66 05	.2365	CS.5
Trenton	34 55	85 30	1903.9	2 34.2 E	66 06.2	.2393	2 33 E	66 08	.2389	CS.4

IDAHO

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Malad City	42 11	112 15	1905.4	18 08.7 E	68 22.0	.2176	18 07 E	68 22	.2177	CS.5
Soda Springs	42 39	111 36	1905.4	19 27.2 E	68 54.5	.2131	19 26 E	68 54	.2132	CS.5
Minidoka	42 45	113 26	1905.5	18 16.6 E	68 20.8	.2188	18 15 E	68 20	.2189	CS.5
Pocatello	42 51	112 26	1905.4	18 08.5 E	68 56.1	.2131	18 07 E	68 56	.2132	CS.5
Shoshone	42 56	114 25	1905.5	19 22.0 E	69 21.0	.2056	19 20 E	69 21	.2057	CS.5
Mountain Home	43 08	115 42	1905.5	18 58.6 E	68 18.3	.2160	18 57 E	68 18	.2161	CS.6
Blackfoot	43 11	112 19	1905.5	19 56.1 E	69 03.7	.2113	19 54 E	69 03	.2114	CS.5
Hailey	43 31	114 19	1905.5	19 17.3 E	69 01.8	.2113	19 15 E	69 01	.2113	CS.6
Arco	43 37	113 18	1905.5	19 34.8 E	69 28.4	.2075	19 33 E	69 28	.2075	CS.5
Boise	43 37	116 12	1905.5	19 10.0 E	68 58.7	.2097	19 08 E	68 58	.2097	CS.6
St. Anthony	43 58	111 43	1906.7	18 57.4 E	70 05.4	.2035	18 52 E	70 04	.2035	CS.7
Dubois	44 10	112 11	1905.5	18 12.0 E	70 15.4	.2046	18 10 E	70 15	.2047	CS.5
Weiser	44 16	116 58	1905.5	20 41.6 E	69 04.5	.2114	20 40 E	69 04	.2114	CS.6
Challis	44 31	114 15	1906.7	19 17.0 E	70 12.5	.2006	19 11 E	70 11	.2008	CS.7

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

IDAHO—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Council	44 44	116 26	1905.5	19 55.0 E	69 54.3	.2053	19 53 E	69 54	.2054	CS.6
Salmon	45 11	113 54	1906.7	20 26.2 E	70 33.4	.2002	20 21 E	70 32	.2004	CS.7
Grangeville	45 56	116 07	1906.6	21 15.6 E	70 55.0	.1988	21 10 E	70 54	.1990	CS.7
Lewiston	46 24	117 02	1906.6	21 57.0 E	71 05.0	.1944	21 52 E	71 04	.1946	CS.7
Pierce	46 29	115 48	1906.6	21 43.8 E	71 16.8	.1923	21 39 E	71 16	.1925	CS.7
Harrison	47 27	116 47	1906.7	22 32.8 E	72 22.8	.1864	22 27 E	72 22	.1866	CS.7
Murray	47 38	115 51	1905.6	22 25.0 E	72 06.2	.1858	22 23 E	72 06	.1859	CS.6
Lake Pend d'Oreille	47 58	116 30	1881.7	22 05.4 E	72 26.0	.1847	22 38 E	72 39	.1829	CS.d1
Magnetic Station	48 10	116 45	1860.0	21 49 E	-- ----	----	22 06 E	-- --	----	CS.d†
Siniaquoteen	48 10	116 45	1881.7	22 28.5 E	72 30.7	.1830	23 01 E	72 44	.1812	CS.d1
Pack River	48 22	116 28	1861.5	22 51 E	72 45.5	.1830	23 11 E	72 53	.1812	CS.d1‡
Chelemta Depot	48 41	116 19	1861.5	22 11 E	73 08.0	.1804	22 31 E	73 16	.1786	CS.d1‡
Magnetic Station	48 42	116 19	1860.0	22 16 E	-- ----	----	22 32 E	-- --	----	CS.d†
Bonners Ferry	48 42	116 19	1906.6	23 24.5 E	73 03.1	.1763	23 19 E	73 02	.1764	CS.7
Moyie River	49 00	116 11	1905.8	23 43.4 E	73 07.1	.1755	23 41 E	73 07	.1755	CS.6
Porthill	49 00	116 30	1905.7	23 30.1 E	73 03.6	.1756	23 28 E	73 03	.1756	CS.6
Magnetic Station	49 00	116 33	1860.0	22 37 E	-- ----	----	22 56 E	-- --	----	CS.d†
Summit Lake	49 00	116 56	1905.7	23 40.0 E	73 01.2	.1762	23 38 E	73 01	.1763	CS.6

ILLINOIS

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Cairo	37 01	89 10	1877.9	6 00.4 E	67 45.6	.2332	4 46 E	67 39	.2306	CS.d1
Mound City	37 05	89 04	1865.0	7 32 E	-- ----	----	5 36 E	-- --	----	CS.d
Golconda	37 23	88 25	1872.5	6 05.8 E	67 55.9	.2252	4 20 E	67 40	.2226	NA.d1
Marion	37 45	88 55	1905.9	4 44.6 E	68 05.5	.2250	4 44 E	68 05	.2251	CS.6
McLeansboro	38 06	88 32	1900.9	4 06.8 E	68 44.6	.2195	4 02 E	68 49	.2190	CS.d2
New Athens	38 19	89 55	1880.8	5 49.1 E	-- ----	----	4 48 E	-- --	----	NI.d
Nashville	38 20	89 22	1900.9	4 24.2 E	69 20.1	.2153	4 19 E	69 24	.2148	CS.d2
Sandoval	38 37	89 10	1896.3	4 48.8 E	69 29.2	.2122	4 34 E	69 33	.2112	CS.d1
Collinsville	38 39	90 04	1879.7	6 27.2 E	69 38.2	.2132	5 22 E	69 33	.2116	NI.d1
Olney	38 44	88 05	1905.9	3 30.4 E	69 41.2	.2095	3 32 E	69 40	.2096	CS.6
Highland	38 44	89 41	1905.6	4 39.9 E	69 41.5	.2120	4 40 E	69 41	.2121	CS.6
Effingham	39 09	88 33	1905.6	4 24.1 E	70 01.6	.2072	4 25 E	70 01	.2073	CS.6
Hillsboro	39 10	89 30	1905.4	4 33.9 E	69 55.8	.2080	4 34 E	69 55	.2180	CS.5
Macon	39 42	89 01	1872.7	5 21.5 E	70 13.5	.2063	3 46 E	70 01	.2045	NA.d1
Tuscola	39 48	88 16	1905.6	3 56.1 E	70 33.2	.2033	3 57 E	70 33	.2034	CS.6
Springfield	39 50	89 39	1891.8	4 46.7 E	70 17.5	.2064	4 20 E	70 19	.2052	CS.d1
Beardstown	40 00	90 29	1880.6	6 43.4 E	70 18.6	.2060	5 41 E	70 17	.2043	NI.d1
Danville	40 07	87 35	1900.8	2 38.8 E	70 50.1	.2020	2 33 E	70 54	.2011	CS.d2
Havana	40 18	90 02	1905.4	4 58.9 E	70 48.3	.2012	4 59 E	70 48	.2013	CS.5
Paxton	40 27	88 05	1905.6	3 33.2 E	71 03.9	.1999	3 33 E	71 03	.2000	CS.6
Bloomington	40 31	88 59	1905.4	3 30.6 E	70 53.6	.1998	3 31 E	70 53	.1999	CS.5
Knoxville	40 54	90 18	1905.4	5 24.8 E	71 22.5	.1972	5 25 E	71 22	.1973	CS.5
Wenona	41 05	89 01	1872.7	6 06.1 E	71 43.9	.1955	4 21 E	71 33	.1927	NA.d1
Ottawa	41 20	88 50	1891.7	5 02.5 E	72 11.0	.1912	4 29 E	72 11	.1895	CS.d1
Princeton	41 23	89 27	1905.5	4 26.7 E	71 49.2	.1924	4 28 E	71 49	.1925	CS.5
Joliet	41 29	88 11	1905.5	2 52.3 E	72 13.0	.1886	2 53 E	72 12	.1887	CS.6
Rock Island	41 31	90 34	1878.7	6 57.8 E	72 15.3	.1940	5 35 E	72 11	.1916	LS.d1
Mount Forest	41 45	87 52	1876.7	4 35.6 E	71 52.8	.1831	2 51 E	71 41	.1800	LS.d1
Shabbona	41 47	88 54	1905.5	3 54.3 E	72 02.8	.1908	3 55 E	72 02	.1909	CS.6
Chicago, old univ. site	41 50	87 37	1888.6	4 07.4 E	72 28.5	.1863	3 17 E	72 27	.1841	CS.d1
Chicago, near water tower	41 54	87 37	1891.5	3 32.3 E	72 22.6	.1874	2 54 E	72 24	.1854	CS.d1
Chicago	41 56	87 37	1900.9	3 57.8 E	72 32.9	.1858	3 53 E	72 35	.1850	CS.d2
Rockford	42 17	89 06	1891.7	3 59.9 E	72 38.2	.1859	3 22 E	72 44	.1844	CS.d1
Do.	42 17	89 07	1876.8	5 18.3 E	72 48.3	.1882	3 36 E	72 41	.1849	LS.d1
Woodstock	42 19	88 25	1905.8	2 46.9 E	72 56.3	.1826	2 48 E	72 56	.1827	CS.6
Freeport	42 19	89 36	1905.5	4 29.6 E	72 47.6	.1834	4 30 E	72 47	.1835	CS.5
Waukegan	42 22	87 49	1904.8	2 39.8 E	72 40	.1804	2 40 E	72 40	.1804	LS.3E
Galena	42 25	90 26	1876.7	9 08.7 E	73 09.0	.1841	7 28 E	73 02	.1808	LS.d1
Dunleith	42 28	90 40	1856.8	8 35.0 E	73 10	----	5 32 E	72 56	----	AA.d1

† U. S. Northwest Boundary Commission; J. S. Harris, observer; revised results.
‡ Boundary Survey; R. W. Haig, observer; Phil. Trans. R. S., 1864.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

INDIANA

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Evansville	37 59	87 28	1900.9	3 49.6 E	69 01.8	.2167	3 45 E	69 07	.2158	CS.d2
New Harmony	38 08	87 56	1880.8	5 05.1 E	69 02.6	.2196	3 58 E	68 58	.2170	CS.d1
New Albany	38 20	85 47	1871.9	- ----	70 21.9	.2059	- --	70 06	.2026	NA.1
Jasper	38 24	86 56	1905.9	3 01.0 E	69 41.8	.2093	3 02 E	69 41	.2095	CS.6
Paoli	38 32	86 27	1900.7	2 35.2 E	69 26.1	.2130	2 30 E	69 32	.2121	CS.d2
Vincennes	38 40	87 31	1905.9	3 08.8 E	69 41.6	.2098	3 10 E	69 40	.2100	CS 6
Madison	38 42	85 27	1900.7	1 36.1 E	69 56.3	.2073	1 30 E	70 02	.2063	CS.d2
Brownstown	38 52	86 02	1905.8	1 29.0 E	70 09.6	.2054	1 30 E	70 09	.2056	CS.6
Bloomfield	39 02	86 56	1900.7	2 45.8 E	69 56.4	.2085	2 40 E	70 01	.2076	CS.d2
Lawrenceburg	39 06	84 52	1905.9	1 04.8 E	70 11.4	.2066	1 06 E	70 11	.2068	CS.6
Columbus	39 09	85 58	1905.9	1 26.8 E	70 26.6	.2016	1 28 E	70 26	.2018	CS.6
Bloomington	39 10	86 32	1905.8	2 15.9 E	70 11.9	.2060	2 17 E	70 11	.2062	CS.6
Greensburg	39 25	85 29	1900.7	2 11.4 E	70 22.3	.2044	2 04 E	70 27	.2033	CS.d2
Martinsville	39 25	86 24	1900.7	2 19.2 E	70 21.4	.2050	2 13 E	70 26	.2040	CS.d2
Terre Haute	39 30	87 23	1900.7	2 44.0 E	70 16.9	.2054	2 38 E	70 21	.2044	CS.d2
Greencastle	39 38	86 51	1905.8	2 45.2 E	70 40.6	.2018	2 46 E	70 40	.2020	CS.6
Indianapolis	39 47	86 12	1900.7	1 21.1 E	70 48.0	.2007	1 15 E	70 52	.1997	CS.d2
Richmond	39 50	84 53	1900.7	1 39.2 E	70 57.1	.1992	1 32 E	71 01	.1980	CS.d1
Crawfordsville	40 03	86 52	1900.8	2 22.1 E	70 56.6	.2002	2 16 E	71 01	.1991	CS.d2
Anderson	40 07	85 42	1905.8	1 52.0 E	71 02.6	.1984	1 53 E	71 02	.1986	CS.6
Hartford City	40 29	85 23	1900.8	1 56.6 E	71 27.8	.1937	1 50 E	71 31	.1927	CS.d2
Kokomo	40 31	86 05	1900.8	1 48.8 E	71 08.4	.1976	1 42 E	71 11	.1965	CS.d2
Reynolds	40 45	86 53	1905.8	1 52.5 E	71 47.8	.1923	1 53 E	71 47	.1925	CS.6
Kentland	40 45	87 27	1905.5	2 49.6 E	71 27.1	.1963	2 50 E	71 27	.1964	CS.6
Wabash	40 48	85 49	1905.8	0 45.8 E	71 52.7	.1912	0 47 E	71 52	.1914	CS.6
Fort Wayne	41 06	85 08	1900.8	0 12.8 E	72 00.6	.1929	0 05 E	72 03	.1917	CS.d2
Warsaw	41 12	85 52	1900.8	1 00.4 E	71 56.1	.1905	0 53 E	71 58	.1894	CS.d2
San Pierre	41 12	86 53	1905.8	1 43.4 E	71 58.5	.1913	1 44 E	71 58	.1915	CS.6
Albion	41 24	85 26	1905.8	1 21.4 E	72 10.4	.1883	1 23 E	72 10	.1885	CS.6
South Bend	41 40	86 14	1900.8	1 25.4 E	72 05.9	.1898	1 18 E	72 08	.1887	CS.d2
Michigan City	41 43	86 55	1900.9	1 45.6 E	72 15.1	.1882	1 39 E	72 17	.1870	CS.d2
Michigan City (A)	41 43	86 54	1873.7	3 59.0 E	72 43	.1886	2 04 E	72 24	.1860	LS.d1
Michigan City (B)	41 43	86 54	1904.8	1 50.2 E	72 22	.1871	1 50 E	72 22	.1871	LS.3E

IOWA

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Keokuk	40 23	91 23	1905.5	5 58.4 E	70 38.2	.2021	5 58 E	70 38	.2022	CS.5
Corydon	40 44	93 19	1900.8	8 13.6 E	71 02.6	.2005	8 18 E	71 08	.1996	CS.d2
Burlington	40 48	91 08	1900.5	6 05.2 E	71 21.9	.1974	6 06 E	71 26	.1965	CS.d2
Fairfield	41 00	91 59	1900.5	6. 51.3 E	71 10.3	.1997	6 52 E	71 15	.1988	CS.d2
Osceola	41 01	93 45	1900.8	7 08.2 E	71 22.2	.1973	7 12 E	71 27	.1964	CS.d2
Red Oak	41 01	95 11	1900.8	8 43.4 E	70 26.6	.2055	8 49 E	70 31	.2046	CS.d2
Ottumwa	41 02	92 25	1888.7	7 49.2 E	71 14.7	.1988	7 18 E	71 15	.1970	CS.d1
Creston	41 03	94 19	1900.8	9 00.6 E	71 03.8	.2010	9 04 E	71 08	.2001	CS.d2
Council Bluffs	41 14	95 52	1900.7	9 32.2 E	71 04.8	.1993	9 37 E	71 09	.1984	CS.d2
Washington	41 15	91 42	1900.5	6 42.5 E	71 30.4	.1943	6 44 E	71 35	.1934	CS.d2
Oskaloosa	41 18	92 39	1900.5	7 58.2 E	71 37.4	.1931	8 01 E	71 42	.1922	CS.d2
Atlantic	41 22	94 58	1900.7	10 01.2 E	71 07.0	.1990	10 06 E	71 12	.1981	CS.d2
Davenport	41 30	90 38	1888.7	6 09.1 E	71 50.8	.1947	5 35 E	71 51	.1927	CS.d1
Menlo	41 31	94 23	1900.8	7 40.5 E	71 22.8	.1967	7 44 E	71 27	.1958	CS.d2
Des Moines	41 36	93 36	1888.7	8 27.5 E	71 25.9	.1966	7 57 E	71 26	.1950	CS.d1
Logan	41 39	95 47	1900.7	8 33.2 E	70 53.4	.2016	8 39 E	70 58	.2007	CS.d2
Iowa City, univ.	41 40	91 32	1878.5	8 36.8 E	72 19.7	.1895	7 20 E	72 14	.1875	NE.d1
Iowa City, Nipher F.	41 40	91 36	1879.5	8 54.7 E	72 02.7	.1900	7 42 E	71 58	.1880	NI.d1
Newton	41 42	93 04	1900.5	7 52.8 E	71 33.4	.1941	7 56 E	71 38	.1932	CS.d2
Marengo	41 46	92 04	1900.5	6 49.5 E	71 51.3	.1929	6 53 E	71 56	.1920	CS.d2
Clinton	41 50	90 13	1902.3	3 51.2 E	72 23.5	.1884	3 52 E	72 26	.1880	Weld†
Onawa	42 01	96 04	1900.7	11 46.0 E	71 16.9	.2005	11 51 E	71 21	.1998	CS.d2
Boone	42 02	93 54	1900.6	6. 56.7 E	71 48.0	.1944	7 01 E	71 52	.1935	CS.d2
Carroll	42 02	94 50	1900.7	9 09.2 E	71 37.8	.1942	9 14 E	71 42	.1933	CS.d2
Anamosa	42 07	91 15	1900.6	6 34.4 E	72 11.2	.1893	6 33 E	72 15	.1885	CS.d2
Eldora	42 21	93 05	1900.6	7 51.0 E	72 08.0	.1901	7 54 E	72 12	.1892	CS.d2
Ida Grove	42 21	95 27	1900.7	9 23.0 E	71 53.6	.1936	9 28 E	71 58	.1929	CS.d2
Dubuque	42 29	90 40	1900.6	5 30.2 E	72 50.4	.1822	5 29 E	72 54	.1814	CS.d2
Manchester	42 29	91 27	1900.6	5 21.4 E	73 07.1	.1807	5 20 E	73 11	.1799	CS.d2

†Observer, Professor L. D. Weld, Coe College, Cedar Rapids, Iowa.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

IOWA—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c.g.s.*	° ′	° ′	*c.g.s.*	
Waterloo	42 29	92 22	1900.6	7 14.0 E	72 36.4	.1851	7 14 E	72 40	.1842	CS.d2
Sioux City	42 29	96 28	1905.6	9 42.4 E	72 21.4	.1876	9 41 E	72 21	.1877	CS.6
Fort Dodge	42 30	94 12	1900.6	7 27.6 E	72 17.5	.1885	7 32 E	72 22	.1876	CS.d2
Fonda	42 35	94 50	1900.7	9 04.2 E	72 18.6	.1888	9 09 E	72 23	.1880	CS.d2
Hampton	42 44	93 11	1900.6	6 06.7 E	72 35.2	.1873	6 09 E	72 40	.1864	CS.d2
Cherokee	42 45	95 34	1900.7	10 28.3 E	72 06.6	.1945	10 33 E	72 11	.1937	CS.d2
Lemars	42 48	96 10	1900.7	10 01.7 E	72 23.6	.1860	10 07 E	72 28	.1853	CS.d2
West Union	42 54	91 50	1900.6	4 21.4 E	73 33.3	.1772	4 22 E	73 37	.1763	CS.d2
Charles City	43 03	92 41	1900.6	7 12.4 E	72 58.8	.1829	7 14 E	73 03	.1822	CS.d2
Emmetsburg	43 04	94 42	1900.6	10 02.6 E	72 32.6	.1860	10 06 E	72 37	.1853	CS.d2
Garner	43 05	93 36	1900.6	9 11.0 E	72 51.3	.1844	9 13 E	72 56	.1835	CS.d2
Hartley	43 10	95 29	1900.7	9 15.2 E	72 11.6	.1897	9 20 E	72 16	.1888	CS.d2
Perkins	43 11	96 11	1900.7	9 45.0 E	72 17.8	.1893	9 51 E	72 22	.1889	CS.d2
Decorah	43 18	91 49	1900.6	5 22.9 E	73 42.9	.1753	5 24 E	73 47	.1744	CS.d2
Sibley	43 24	95 43	1891.6	9 41.9 E	72 51.3	.1834	9 32 E	72 56	.1810	CS.d1
Northwood	43 27	93 16	1900.6	6 57.1 E	73 17.2	.1808	6 59 E	73 21	.1801	CS.d2

KANSAS

	° ′	° ′		° ′	° ′	*c.g.s.*	° ′	° ′	*c.g.s.*	
Liberal	37 05	100 55	1902.9	11 22.8 E	66 01.0	.2391	11 31 E	66 04	.2385	CS.3
Sedan	37 08	96 13	1902.6	8 52.2 E	67 02.2	.2323	8 59 E	67 06	.2315	CS.3
Anthony	37 09	98 02	1902.9	9 13.6 E	66 45.0	.2341	9 20 E	66 48	.2335	CS.3
Oswego	37 11	95 08	1902.6	9 05.4 E	66 54.4	.2329	9 12 E	66 59	.2322	CS.3
Ashland	37 12	99 45	1902.9	11 09.4 E	66 18.5	.2365	11 15 E	66 22	.2359	CS.3
Hugoton	37 13	101 21	1902.9	11 37.4 E	66 08.3	.2373	11 44 E	66 12	.2367	CS.3
Independence	37 14	95 44	1902.6	8 58.4 E	67 05.5	.2323	9 06 E	67 10	.2316	CS.3
Winfield	37 15	96 59	1904.6	9 26.5 E	67 06.0	.2319	9 28 E	67 07	.2318	CS.5
Richfield	37 16	101 46	1900.9	11 42.8 E	65 58.4	.2390	11 53 E	66 04	.2378	CS.d2
Wellington	37 17	97 24	1902.8	9 37.1 E	66 55.5	.2334	9 42 E	66 59	.2328	CS.3
Coldwater	37 17	99 20	1902.9	11 21.5 E	66 20.5	.2360	11 27 E	66 24	.2354	CS.3
Medicine Lodge	37 18	98 35	1902.9	11 05.6 E	66 46.7	.2345	11 12 E	66 50	.2339	CS.3
Meade	37 19	100 22	1902.9	11 09.0 E	66 07.7	.2394	11 14 E	66 11	.2388	CS.3
Parsons	37 20	95 16	1904.8	8 31.6 E	67 18.2	.2304	8 32 E	67 18	.2304	CS.5
Howard	37 28	96 15	1902.6	9 14.6 E	67 25.8	.2280	9 22 E	67 29	.2273	CS.3
Fredonia	37 31	95 50	1902.6	9 34.6 E	67 28.3	.2290	9 42 E	67 32	.2283	CS.3
Girard	37 32	94 51	1902.6	8 49.6 E	67 30.1	.2278	8 57 E	67 34	.2271	CS.3
Erie	37 34	95 13	1902.6	8 12.4 E	67 27.5	.2296	8 20 E	67 31	.2289	CS.3
Greensburg	37 37	99 17	1904.9	11 00.5 E	66 55.1	.2321	11 01 E	66 55	.2321	CS.5
Kingman	37 38	98 06	1904.6	9 53.6 E	67 15.5	.2295	9 55 E	67 16	.2294	CS.5
Pratt	37 41	98 46	1904.6	10 21.2 E	67 01.2	.2314	10 23 E	67 02	.2313	CS.5
Wichita	37 43	97 17	1904.5	10 12.2 E	67 31.4	.2255	10 14 E	67 32	.2254	CS.5
Dodge City	37 46	100 02	1904.9	11 38.5 E	66 40.8	.2341	11 39 E	66 41	.2341	CS.5
Humboldt	37 49	95 26	1878.6	10 04.9 E	-- ----	----	9 09 E	-- --	----	CS.d
Eldorado	37 49	96 50	1904.5	9 41.8 E	67 19.0	.2275	9 43 E	67 19	.2274	CS.5
Cimarron	37 49	100 21	1904.9	10 32.0 E	66 39.3	.2343	10 32 E	66 39	.2343	CS.5
Eureka	37 50	96 14	1902.6	9 49.8 E	67 23.6	.2280	9 57 E	67 27	.2272	CS.3
Fort Scott	37 50	94 43	1902.5	8 07.8 E	67 34.4	.2275	8 15 E	67 38	.2267	CS.3
Yates Center	37 54	95 44	1902.6	9 31.0 E	67 44.4	.2254	9 38 E	67 48	.2246	CS.3
Kinsley	37 56	99 24	1904.9	10 43.4 E	67 02.3	.2311	10 44 E	67 02	.2310	CS.5
Lakin	37 58	101 17	1904.9	12 14.3 E	66 40.5	.2337	12 14 E	66 41	.2337	CS.5
Garden City	37 58	100 53	1904.9	11 46.6 E	66 49.5	.2329	11 47 E	66 50	.2329	CS.5
St. John	37 59	98 45	1904.6	10 30.7 E	67 16.8	.2305	10 32 E	67 17	.2305	CS.5
Syracuse	38 01	101 45	1903.3	11 40.6 E	66 49.9	.2331	11 47 E	66 52	.2326	CS.3
Hutchinson	38 04	97 56	1904.6	9 52.7 E	67 29.9	.2276	9 54 E	67 30	.2275	CS.5
Coolidge	38 04	102 01	1903.3	12 02.5 E	66 56.2	.2321	12 07 E	66 59	.2317	CS.3
Jetmore	38 05	99 53	1904.9	11 22.2 E	67 21.0	.2291	11 22 E	67 21	.2290	CS.5
Sargent	38 05	101 58	1878.6	12 44.3 E	66 50.5	.2365	12 10 E	67 02	.2331	CS.d1
Newton	38 06	97 19	1904.5	9 32.1 E	67 12.5	.2312	9 34 E	67 13	.2310	CS.5
Mound City	38 08	94 50	1902.5	7 40.7 E	68 01.9	.2238	7 48 E	68 06	.2229	CS.3
Larned	38 11	99 07	1904.9	10 44.2 E	67 26.9	.2288	10 44 E	67 27	.2288	CS.5
Burlington	38 12	95 48	1900.5	9 27.6 E	67 28.9	.2295	9 37 E	67 36	.2282	CS.d2
Garnett	38 16	95 17	1900.5	9 34.0 E	68 17.7	.2228	9 44 E	68 24	.2215	CS.d2
Marion	38 21	97 01	1904.5	9 03.5 E	67 47.6	.2262	9 05 E	67 48	.2261	CS.4
Lyons	38 22	98 11	1904.6	10 16.0 E	67 53.1	.2243	10 17 E	67 54	.2242	CS 5
Great Bend	38 22	98 47	1904.8	10 17.5 E	67 43.6	.2247	10 18 E	67 44	.2247	CS.5
McPherson	38 23	97 37	1904.6	10 18.9 E	67 46.3	.2268	10 20 E	67 47	.2267	CS.5
Cottonwood Falls	38 24	96 32	1904.5	9 12.4 E	67 37.7	.2276	9 14 E	67 38	.2275	CS.4

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

KANSAS—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c.g.s.*	° ′	° ′	*c.g.s.*	
Emporia	38 25	96 12	1904.5	9 57.0 E	67 56.3	.2256	9 59 E	67 57	.2254	CS.4
Ness City	38 28	99 54	1904.9	11 15.4 E	67 40.7	.2267	11 16 E	67 41	.2267	CS.5
Dighton	38 30	100 28	1904.9	11 17.0 E	67 33.8	.2277	11 17 E	67 34	.2277	CS.5
Scott	38 30	100 54	1904.9	12 04.5 E	67 16.0	.2300	12 05 E	67 16	.2299	CS.5
Leoti	38 30	101 21	1904.9	12 22.6 E	67 26.7	.2275	12 23 E	67 27	.2274	CS.5
Tribune	38 30	101 46	1904.8	12 14.0 E	67 08.1	.2298	12 15 E	67 08	.2297	CS.5
Paola	38 34	94 52	1902.5	8 32.0 E	68 31.1	.2199	8 39 E	68 35	.2192	CS.3
La Crosse	38 36	99 16	1892.7	11 03.9 E	-- ----	----	11 06 E	-- --	----	CS.d
Ottawa	38 37	95 16	1902.5	8 18.6 E	68 28.4	.2214	8 26 E	68 32	.2207	CS.3
Lyndon	38 37	99 41	1900.5	9 57.5 E	68 52.0	.2183	10 05 E	68 58	.2171	CS.d2
Skaggs	38 40	99 45	1893.5	10 59.4 E	-- ----	----	11 02 E	-- --	----	CS.d
Council Grove	38 41	96 30	1904.5	9 18.0 E	68 16.3	.2230	9 20 E	68 17	.2230	CS.4
Fairmount	38 41	99 00	1892.6	11 06.3 E	-- ----	----	11 10 E	-- --	----	CS.d
Schmidt	38 42	100 03	1893.5	11 30.8 E	-- ----	----	11 33 E	-- --	----	CS.d
Ellsworth	38 44	98 14	1904.6	10 06.4 E	68 04.3	.2240	10 08 E	68 05	.2240	CS.5
Smoky Hill	38 44	99 33	1893.6	11 12.1 E	-- ----	----	11 15 E	-- --	----	CS.d
Baldwin. Mag. Obsy.	38 47	95 10	1905.0	8 26.9 E	68 41.8	.2186	8 27 E	68 42	.2186	CS.5
Olathe	38 49	95 01	1901.6	9 02.9 E	68 37.2	.2200	9 11 E	68 42	.2192	CS.d2
Salina	38 49	97 36	1904.6	11 06.6 E	68 11.7	.2234	11 08 E	68 12	.2233	CS.5
Do.	38 49	97 35	1904.8	11 09.1 E	68 12.0	.2229	11 10 E	68 12	.2228	CS 5
Allen	38 50	98 52	1892.6	10 20.7 E	-- ----	----	10 27 E	-- --	----	CS.d
Curlew	38 50	101 46	1892.5	12 37.4 E	-- ----	----	12 43 E	-- --	----	CS.d
Southeast Base	38 51	98 47	1893.7	10 33.5 E	-- ----	----	10 37 E	-- --	----	CS.d
Northwest Base	38 54	98 50	1892.8	10 35.7 E	-- ----	----	10 40 E	-- --	----	CS.d
Russell	38 54	98 54	1904.8	10 05.2 E	68 06.8	.2225	10 06 E	68 07	.2225	CS.5
Trego	38 54	99 38	1893.6	11 19.1 E	-- ----	----	11 22 E	-- --	----	CS.d
Hays	38 55	99 16	1904.8	11 33.4 E	67 59.1	.2243	11 34 E	67 59	.2242	CS.5
Wallace	38 55	101 36	1904.8	12 25.2 E	67 41.4	.2252	12 26 E	67 42	.2252	CS.5
Abilene	38 56	97 13	1904.7	10 14.5 E	68 28.5	.2220	10 15 E	68 29	.2219	CS.5
Ellis	38 56	99 34	1904.8	11 18.0 E	68 02.4	.2230	11 18 E	68 03	.2230	CS.5
Big Creek	38 56	99 54	1893.4	10 59.6 E	-- ----	----	11 03 E	-- --	----	CS.d
Lawrence	38 58	95 15	1877.9	9 51.6 E	68 43.4	.2244	8 51 E	68 50	.2212	CS.d1
Gove	38 58	100 30	1904.8	11 26.4 E	68 07.7	.2251	11 27 E	68 08	.2251	CS.5
Bluehill	38 59	99 06	1892.8	11 10.0 E	-- ----	----	11 11 E	-- --	----	CS.d
Alma	39 01	96 17	1902.6	9 17.2 E	68 35.3	.2202	9 24 E	68 39	.2196	CS.3
Topeka	39 02	95 43	1902.6	9 07.1 E	68 50.1	.2180	9 14 E	68 54	.2174	CS.3
Lincoln Center	39 02	98 09	1904.7	10 07.4 E	68 09.9	.2231	10 08 E	68 10	.2230	CS.5
Wakeeney	39 02	99 54	1904.8	11 32.8 E	67 59.7	.2239	11 33 E	68 00	.2239	CS.5
McLane	39 02	101 57	1892.6	12 03.1 E	-- ----	----	12 09 E	-- --	----	CS.d
Junction	39 04	96 48	1904.7	9 54.1 E	68 38.7	.2202	9 55 E	68 39	.2201	CS.5
Minneapolis	39 09	97 43	1902.8	10 18.8 E	68 14.4	.2233	10 24 E	68 18	.2227	CS.3
Minneapolis (B)	39 09	97 43	1902.8	10 12.6 E	67 48.0	.2216	10 18 E	67 51	.2210	CS.3
Waldo	39 10	98 50	1892.5	11 17.6 E	-- ----	----	11 23 E	-- --	----	CS.d
Oskaloosa	39 12	95 19	1902.6	8 30.8 E	68 46.0	.2190	8 37 E	68 49	.2185	CS.3
Manhattan	39 12	96 35	1872.8	10 51.3 E	68 47.2	.2201	9 32 E	68 52	.2165	NA.d1
Hoxie	39 22	100 27	1902.8	11 43.8 E	68 09.4	.2232	11 49 E	68 12	.2228	CS.3
Goodland	39 22	101 41	1902.7	12 11.0 E	67 57.2	.2245	12 17 E	68 00	.2241	CS.3
Westmoreland	39 24	96 25	1904.8	9 24.0 E	69 06.4	.2169	9 25 E	69 07	.2168	CS.5
Hill City	39 24	99 51	1902.8	11 17.0 E	68 24.6	.2214	11 22 E	68 27	.2210	CS.3
Clay Center	39 25	97 08	1904.7	9 40.0 E	68 59.1	.2186	9 41 E	69 00	.2185	CS.5
Colby	39 25	101 03	1902.7	12 02.3 E	68 16.2	.2221	12 08 E	68 19	.2216	CS 3
Stockton	39 27	99 16	1902.8	11 34.4 E	68 37.8	.2196	11 40 E	68 41	.2191	CS.3
Holton	39 28	95 44	1900.6	9 22.2 E	69 02.6	.2161	9 30 E	69 08	.2151	CS.d2
Osborne	39 28	98 42	1902.8	11 05.4 E	68 51.9	.2174	11 11 E	68 55	.2170	CS.3
Beloit	39 29	98 06	1902.8	10 11.1 E	68 32.0	.2224	10 16 E	68 35	.2220	CS.3
Concordia	39 35	97 41	1904.7	9 40.7 E	69 01.2	.2173	9 41 E	69 02	.2172	CS.5
Atchison	39 36	95 06	1902.7	8 27.8 E	69 11.2	.2159	8 33 E	69 14	.2155	CS.3
Troy	39 46	95 06	1902.7	8 46.9 E	69 28.8	.2150	8 52 E	69 32	.2146	CS.3
Phillipsburg	39 47	99 19	1902.7	11 36.3 E	68 58.0	.2165	11 42 E	69 01	.2161	CS.3
Bird City	39 47	101 33	1902.9	12 21.5 E	68 25.8	.2209	12 26 E	68 28	.2205	CS.3
Mankato	39 48	98 09	1902.7	10 40.0 E	69 22.2	.2141	10 46 E	69 25	.2136	CS.3
Smith Center	39 48	98 47	1902.7	12 01.9 E	68 55.5	.2166	12 08 E	68 59	.2161	CS.3
Seneca	39 50	96 05	1904.8	9 05.4 E	69 50.5	.2096	9 06 E	69 51	.2096	CS.5
Marysville	39 50	96 39	1900.6	9 03.8 E	69 07.8	.2165	9 13 E	69 14	.2156	CS.d2
Belleville	39 50	97 38	1902.7	10 04.0 E	68 18.9	.2140	10 10 E	68 22	.2136	CS.3
Hiawatha	39 51	95 32	1900.6	9 31.8 E	69 33.5	.2104	9 38 E	69 39	.2095	CS.d2
Washington	39 51	97 04	1904.8	10 57.6 E	69 21.6	.2138	10 58 E	69 22	.2138	CS.5
Norton	39 51	99 54	1902.7	11 33.6 E	69 00.3	.2169	11 40 E	69 03	.2165	CS.3
Oberlin	39 52	100 32	1902.8	11 50.8 E	68 24.5	.2216	11 56 E	68 27	.2212	CS.3

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

KENTUCKY

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c.g.s.*	° ′	° ′	*c.g.s*	
Hickman	36 34	89 12	1881.7	5 47.3 E	67 19.4	.2338	4 49 E	67 17	.2307	CS.d1
Guthrie	36 38	87 10	1875.5	6 43.8 E	-- ----	----	5 15 E	-- --	----	NA.d
Williamsburg	36 45	84 09	1903.5	1 05.9 E	68 10.0	.2227	1 04 E	68 12	.2222	CS.4
Scottsville	36 45	86 13	1905.9	5 14.1 E	68 01.9	.2287	5 15 E	68 01	.2289	CS.6
Mayfield	36 45	88 41	1881.7	5 12.9 E	67 35.0	.2309	4 15 E	67 33	.2278	CS.d1
Pineville	36 47	83 41	1903.5	1 15.9 E	67 56.3	.2252	1 14 E	67 58	.2247	CS.4
Russellville	36 50	86 53	1901.5	3 20.7 E	67 32.5	.2312	3 16 E	67 37	.2302	CS.d2
Barboursville	36 51	83 53	1903.5	0 09.3 W	68 16.4	.2234	0 11 W	68 18	.2230	CS.4
Monticello	36 51	84 51	1903.8	4 07.2 E	67 42.3	.2263	4 06 E	67 44	.2259	CS.4
Harlan	36 52	83 20	1903.5	1 01.1 W	68 37.9	.2174	1 03 W	68 39	.2169	CS.4
Hopkinsville	36 52	87 29	1904.9	4 08.3 E	67 30.9	.2267	4 08 E	67 31	.2267	CS.5
Twenty-seven Mile I.	36 57	88 14	1865.1	7 22 E	-- ----	----	5 16 E	-- --	----	CS.d
Oakland	37 02	86 15	1871.9	6 14.2 E	68 48.8	.2244	4 35 E	68 27	.2216	CS.d1
Crofton	37 02	87 29	1875.5	6 15.7 E	-- ----	----	4 45 E	-- --	----	NA.d
Patterson Landing	37 03	88 25	1865.2	6 44 E	-- ----	----	4 38 E	-- --	----	CS.d
Upper Pt. of Rocks	37 04	88 17	1865.1	7 25 E	-- ----	----	5 19 E	-- --	----	CS.d
Paducah	37 04	88 37	1901.5	4 27.1 E	67 49.9	.2265	4 25 E	67 56	.2255	CS.d2
Somerset	37 06	84 37	1903.8	1 16.0 E	68 20.0	.2250	1 14 E	68 21	.2247	CS.4
Whitesburg	37 07	82 50	1903.5	0 46.1 W	68 25.3	.2189	0 48 W	68 26	.2188	CS.4
London	37 07	84 04	1903.6	0 46.0 E	68 53.7	.2155	0 44 E	68 55	.2151	CS.4
Princeton	37 07	87 53	1901.5	3 48.1 E	67 45.6	.2261	3 44 E	67 51	.2251	CS.d2
Hyden	37 10	83 23	1903.6	0 41.0 E	69 09.5	.2128	0 39 E	69 11	.2124	CS.4
Manchester	37 10	83 46	1903.6	0 23.2 W	69 06.2	.2136	0 25 W	69 08	.2132	CS.4
Cave City	37 10	85 55	1875.5	5 54.5 E	-- ----	----	4 18 E	-- --	----	NA.d
Greenville	37 13	87 11	1901.5	3 48.5 E	68 19.6	.2217	3 44 E	68 24	.2209	CS.d2
Hazard	37 15	83 11	1903.6	0 18.5 W	68 44.9	.2155	0 21 W	68 46	.2151	CS.4
Greensburg	37 17	85 30	1904.8	2 22.2 E	69 00.8	.2155	2 22 E	69 01	.2156	CS.5
Hindman	37 19	82 58	1903.6	0 02.6 W	68 49.0	.2154	0 05 W	68 50	.2150	CS.4
Madisonville	37 19	87 33	1881.8	5 06.2 E	68 24.2	.2266	4 00 E	68 17	.2237	CS.d1
Livingston	37 20	84 14	1900.5	0 31.4 E	68 37.0	.2195	0 24 E	68 42	.2185	CS.d2
McKee	37 26	83 59	1903.6	0 31.2 E	69 08.9	.2118	0 29 E	69 10	.2115	CS.4
Boonville	37 28	83 40	1903.6	0 14.3 W	68 57.3	.2124	0 16 W	68 58	.2121	CS.4
Leitchfield	37 28	86 17	1904.9	2 19.2 E	68 33.2	.2211	2 19 E	68 33	.2211	CS.5
Pikeville	37 29	82 31	1903.7	0 46.1 W	68 39.8	.2194	0 49 W	68 41	.2191	CS.4
Stanford	37 31	84 44	1881.8	4 15.8 E	69 43.8	.2132	3 03 E	69 34	.2100	CS.d1
Jackson	37 33	83 23	1903.6	1 15.5 E	68 58.1	.2131	1 13 E	68 59	.2128	CS.4
Beattyville	37 35	83 42	1903.6	0 06.1 W	69 02.8	.2129	0 08 W	69 04	.2126	CS.4
Beattyville (A)	37 35	83 42	1903.6	0 04.2 W	-- ----	----	0 06 W	-- --	----	CS. 4
Lebanon	37 36	85 19	1881.8	3 43.9 E	69 06.8	.2190	2 32 E	68 57	.2158	CS.d1
Lancaster	37 37	84 32	1903.8	2 53.3 E	69 05.9	.2158	2 50 E	69 07	.2155	CS.4
Prestonburg	37 41	82 45	1903.7	0 06.1 W	68 52.1	.2160	0 08 W	68 53	.2157	CS.4
Irvine	37 42	83 58	1903.6	0 14.6 E	69 11.9	.2104	0 13 E	69 13	.2101	CS.4
Elizabethtown	37 42	85 52	1904.9	1 46.1 E	68 27.4	.2191	1 46 E	68 28	.2191	CS.5
Morganfield	37 42	87 54	1901.5	4 45.9 E	68 38.5	.2196	4 42 E	68 43	.2187	CS.d2
Campton	37 44	83 32	1903.6	1 23.3 E	68 46.7	.2160	1 21 E	68 48	.2157	CS.4
Salyersville	37 45	83 05	1903.7	0 14.6 E	69 02.8	.2142	0 12 E	69 04	.2139	CS.4
Richmond	37 45	84 18	1900.5	0 05.3 E	69 29.1	.2102	0 01 W	69 34	.2092	CS.d2
Harrodsburg	37 46	84 50	1903.8	1 31.5 E	69 11.1	.2135	1 29 E	69 12	.2132	CS.4
Owensboro	37 46	87 05	1901.5	3 27.1 E	68 32.9	.2210	3 23 E	68 37	.2202	CS.d2
Paintsville	37 49	82 49	1903.7	0 08.3 W	69 03.5	.2147	0 11 W	69 04	.2144	CS.4
Stanton	37 51	83 50	1903.6	1 00.0 E	69 04.3	.2140	0 58 E	69 05	.2137	CS.4
Inez	37 52	82 34	1903.7	0 36.1 W	69 11.6	.2146	0 38 W	69 12	.2144	CS.4
Hawesville	37 54	86 45	1900.9	3 35.1 E	69 02.0	.2159	3 31 E	69 07	.2149	CS.d2
West Liberty	37 55	83 16	1903.7	0 39.9 E	69 10.1	.2133	0 38 E	69 11	.2130	CS.4
Nicholasville	37 56	84 38	1875.5	2 48.3 E	-- ----	----	1 12 E	-----	----	NA.d
Frenchburg	37 57	83 36	1903.6	0 16.7 W	69 12.7	.2136	0 19 W	69 14	.2133	CS.4
Lawrenceburg	38 02	84 53	1903.8	1 53.7 E	69 39.5	.2089	1 52 E	69 41	.2087	CS.4
Sandy Hook	38 04	83 08	1903.7	0 48.3 E	69 21.2	.2132	0 46 E	69 22	.2129	CS.4
Mount Sterling	38 04	83 59	1900.5	1 24.5 E	69 47.9	.2118	1 16 E	69 53	.2108	CS.d2
Lexington	38 04	84 30	1896.3	0 50.6 E	69 32.6	.2079	0 32 E	69 42	.2062	CS.d1
Versailles	38 04	84 43	1903.7	1 00.3 E	69 46.1	.2088	0 58 E	69 47	.2085	CS.4
Louisa	38 07	82 35	1903.7	0 33.9 W	69 31.1	.2111	0 36 W	69 32	.2108	CS.4
Morehead	38 10	83 27	1900.5	0 41.5 W	69 29.8	.2123	0 50 W	69 35	.2113	CS.d2
Shelbyville	38 13	85 13	1871.9	3 02.7 E	69 46.6	.2144	1 09 E	69 24	.2109	CS.d1
Georgetown	38 13	84 33	1903.7	0 39.5 E	69 31.0	.2090	0 38 E	69 32	.2087	CS.4
Louisville	38 14	85 42	1904.8	1 20.1 E	69 33.1	.2113	1 20 E	69 33	.2113	CS.5
Portland	38 16	85 50	1875.5	3 37.9 E	-- ----	----	2 01 E	-----	----	NA.d
Grayson	38 19	82 58	1900.5	0 22.9 E	69 41.6	.2123	0 14 E	69 47	.2112	CS.d2
Flemingsburg	38 26	83 46	1881.8	1 45.3 E	69 45.2	.2133	0 31 E	69 35	.2100	CS.d1

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

KENTUCKY—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Cynthiana	38 26	84 17	1881.8	2 28.4 E	69 44.0	.2133	1 12 E	69 34	.2100	CS.d1
Owenton	38 33	84 51	1903.7	1 34.1 E	69.48.2	.2078	1 32 E	69 49	.2075	CS.4
Williamstown	38 38	84 36	1903.7	1 32.5 E	69 35.7	.2096	1 30 E	69 37	.2093	CS.4
Falmouth	38 40	84 22	1903.7	1 20.9 E	69 43.9	.2099	1 19 E	69 45	.2096	CS.4
Maysville	38 41	83 41	1875.5	0 00.4 E	-- ----	----	1 42 W	-- --	----	NA.d
Brooksville	38 41	84 07	1903.7	0 54.7 E	70 00.0	.2069	0 53 E	70 01	.2066	CS.4

LOUISIANA†

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Southwest Pass	28 59	89 21	1840.5	- ----	58 42.2	----	- --	58 47	----	CS.1
Do.	28 59	89 23	1872.2	6 05.4 E	58 46.5	.2863	4 50 E	59 08	.2798	CS.d1
Isle Dernière	29 02	90 54	1853.1	8 19.2 E	-- ----	----	5 43 E	-- --	----	CS.d
Southeast Pass	29 05	89 04	1860.0	- ----	58 45.3	.2940	- --	59 10	.2864	CS.1
Cubit	29 10	89 15	1860.0	7 31.8 E	58 54.0	.2924	5 15 E	59 19	.2848	CS.d1
Pass à Loutre	29 11	89 01	1860.0	7 30.0 E	58 47.0	.2930	5 13 E	59 12	.2854	CS.d1
Osgood Island	29 11	89 05	1872.2	6 10.7 E	59 01.2	.2798	4 56 E	59 24	.2733	NA.d1
Fort Livingston	29 16	89 57	1853.0	7 38.4 E	-- ----	----	4 57 E	-- --	----	CS.d
Magnolia Base, l. e.	29 32	89 47	1872.1	6 46.8 E	59 23.5	.2756	5 32 E	59 46	.2691	CS.d1
Belle Isle	29 32	91 29	1905.2	6 08.6 E	59.29.9	.2781	6 08 E	59 29	.2782	CS.5
Marsh Island L. H.	29 35	92 02	1886.0	6 53.7 E	58 51.7	.2860	6 30 E	59 16	.2809	CS.d1
Pointe a la Hache	29 36	89 48	1904.0	5 22.9 E	59 47.6	.2774	5 24 E	59 51	.2769	CS.4
Houma	29 36	90 44	1903.1	5 42.6 E	59 33.8	.2789	5 47 E	59 40	.2781	CS.3
Morgan City	29 40	91 15	1886.4	6 30.1 E	59 13.3	.2840	6 08 E	59 39	.2789	CS.d1
Brashear City	29 41	91 14	1872.2	6 53.1 E	59 16.3	.2809	5 46 E	59 39	.2744	NA.d1
Berwick Bay	29 42	91 13	1905.2	6 02.2 E	59 38.7	.2784	6 02 E	59 38	.2785	CS.5
Shell Point	29 43	91 53	1905.2	6 19.4 E	-- ----	----	6 19 E	-- --	----	CS.5
Cote Blanche	29 44	91 43	1904.1	6 17.8 E	-- ----	----	6 20 E	-- --	----	CS.4
Shark Bayou	29 47	91 50	1905.1	6 17.8 E	-- ----	----	6 18 E	-- --	----	CS.5
Cameron	29 47	93 19	1901.2	6 54.0 E	-- ----	----	7 01 E	-- --	----	CS.d
Thibodaux	29 48	90 47	1903.1	5 44.0 E	59 43.4	.2779	5 49 E	59 49	.2770	CS.3
Franklin	29 48	91 30	1904.0	6 05.8 E	59 42.1	.2787	6 08 E	59 45	.2782	CS.4
Do.	29 48	91 30	1905.2	6 06.5 E	-- ----	----	6 06 E	-- --	----	CS.5
Weeks Island	29 48	91 48	1905.0	6 16.5 E	-- ----	----	6 16 E	-- --	----	CS.5
Baldwin	29 49	91 36	1904.1	6 07.7 E	59 40.2	.2800	6 10 E	59 43	.2796	CS.4
Grande Côte	29 50	91 47	1904.0	6 13.2 E	59 36.8	.2800	6 15 E	59 40	.2796	CS.4
Do.	29 50	91 47	1905.1	6 16.6 E	-- ----	----	6 16 E	-- --	----	CS.5
St. Bernard	29 53	89 51	1904.2	5 28.9 E	60 01.8	.2769	5 30 E	60 04	.2765	CS.4
Barrel Key	29 54	89 08	1857.3	7 36.1 E	59 48.2	.2897	5 08 E	60 11	.2808	CS.d1
New Orleans nr. Un.	29 54	90 08	1901.3	5 24.4 E	-- ----	.2794	5 29 E	-- --	.2778	CS.d2
New Orleans, F. G.	29 59	90 05	1895.6	5 40.4 E	59.43.2	.2794	5 39 E	60 05	.2759	CS.d1
Averys Island	29 55	91 53	1872.2	7 19.7 E	59 26.4	.2772	6 13 E	59 49	.2707	NA.d1
Do.	29 55	91 53	1904.1	6 21.6 E	-- ----	----	6 24 E	-- --	----	CS.4
Gretna	29 56	90 03	1904.0	5 40.1 E	60 02.0	.2765	5 42 E	60 05	.2761	CS.4
Napoleonville	29 56	91 00	1903.1	5 47.4 E	59 51.4	.2776	5 52 E	59 57	.2767	CS.3
Hahnville	29 58	90 22	1903.1	5 35.6 E	59 58.5	.2773	5 39 E	60 04	.2765	CS.3
Abbeville	29 58	92 07	1904.2	6 28.1 E	59 41.6	.2784	6 30 E	59 44	.2780	CS.4
New Iberia	30 00	91 48	1904.1	6 18.4 E	59 49.3	.2793	6 20 E	59 52	.2789	CS.4
L. Pontchartrain, E. B.	30 01	90 07	1896.2	5 33 E	-- ----	----	5 35 E	-- --	----	CS.d
Convent	30 01	90 50	1903.0	5 45.6 E	59 57.5	.2771	5 50 E	60 03	.2762	CS.3
Edgard	30 02	90 32	1903.1	5 39.5 E	60 05.2	.2767	5 42 E	60 11	.2759	CS.3
Chandeleur L. H.	30 03	88 52	1896.1	4 58 E	-- ----	----	4 58 E	-- --	----	CS.d‡
Frenier	30 06	90 25	1896.2	5 36 E	-- ----	----	5 38 E	-- --	----	CS.d
Donaldsonville	30 07	90 58	1903.1	5 46.5 E	60 04.8	.2763	5 51 E	60 10	.2755	CS.3
St. Martinville	30 08	91 49	1904.1	6 22.2 E	60 00.1	.2785	6 24 E	60 03	.2781	CS.4
Kirsch	30 10	90 26	1896.2	5 29 E	-- ----	----	5 32 E	-- --	----	CS.d
Crowley	30 12	92 20	1904.2	6 31.8 E	60 04.6	.2773	6 34 E	60 07	.2769	CS.4
Mermentau	30 12	92 27	1890.3	6 49.4 E	59 34.5	.2801	6 36 E	60 01	.2755	CS.d1
Jennings	30 12	92 37	1904.2	6 38.0 E	60 03.5	.2772	6 40 E	60 06	.2768	CS.4
Lafayette	30 13	92 00	1904.6	6 31.8 E	60 11.3	.2760	6 33 E	60 12	.2759	CS.5

† The magnetic work in Louisiana, 1901–1905, was executed under the joint auspices of the U. S. Coast and Geodetic Survey and of the Louisiana Geological Survey (G. D. Harris, State geologist). Besides references given, *cf* Bull. No. 2 of the Louisiana Geological Survey, Baton Rouge, 1905.

‡ Observation by U. S. Engineer.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

LOUISIANA—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Northwest Point	30 14	90 21	1896.3	5 31 E	-- ----	----	5 33 E	-- --	----	CS.d
Lake Charles	30 14	93 13	1904.0	6 50.5 E	60 02.4	.2770	6 53 E	60 05	.2766	CS.4
Anse la Butte	30 15	91 56	1904.1	6 26.6 E	-- ----	----	6 29 E	-- --	----	CS.4
Evangeline	30 16	92 33	1904.2	6 39.2 E	59 57.9	.2784	6 41 E	60 00	.2780	CS.4
Plaquemine	30 18	91 15	1904.2	5 51.2 E	60 30.4	.2737	5 53 E	60 33	.2733	CS.4
Springville	30 26	90 41	1904.2	5 41.9 E	60 42.0	.2723	5 43 E	60 44	.2720	CS.4
Baton Rouge	30 28	91 12	1903.1	5 51.5 E	60 29.5	.2730	5 56 E	60 35	.2722	CS.3
Covington	30 29	90 07	1903.0	5 27.6 E	60 41.4	.2720	5 32 E	60 47	.2711	CS.3
Opelousas	30 33	92 04	1904.1	6 22.8 E	60 20.6	.2758	6 25 E	60 23	.2754	CS.4
New Roads	30 42	91 28	1903.1	6 00.0 E	60 47.1	.2720	6 04 E	60 52	.2712	CS.3
Amite	30 44	90 29	1903.0	5 43.4 E	60 49.9	.2717	5 47 E	60 56	.2709	CS.3
St. Francisville	30 46	91 20	1903.1	6 00.2 E	60 50.8	.2713	6 04 E	60 57	.2705	CS.3
Chicot Marble Q.	30 47	92 28	1904.2	6 44.9 E	60 46.7	.2703	6 47 E	60 49	.2699	CS.4
Oakdale	30 48	92 38	1904.2	6 43.0 E	60 41.4	.2717	6 45 E	60 44	.2713	CS.4
Greensburg	30 50	90 42	1903.0	5 47.8 E	60 55.4	.2712	5 52 E	61 02	.2703	CS.3
Franklinton	30 52	90 09	1904.2	5 33.9 E	61 04.8	.2697	5 35 E	61 07	.2694	CS.4
Clinton	30 53	91 00	1903.1	5 50.7 E	60 53.5	.2712	5 55 E	61 00	.2704	CS.3
Cheneyville	30 59	92 18	1904.1	6 38.2 E	60 58.8	.2713	6 40 E	61 01	.2709	CS.4
Marksville	31 07	92 03	1904.2	6 32.7 E	61 03.2	.2719	6 34 E	61 05	.2715	CS.4
Leesville	31 11	93 15	1904.0	7 02.2 E	60 59.8	.2707	7 05 E	61 02	.2703	CS.4
Alexandria	31 20	92 25	1904.1	6 38.6 E	61 13.6	.2698	6 40 E	61 16	.2694	CS.4
Gaines Ferry	31 28	93 45	1840.4	8 40.5 E	60 57	----	5 40 E	60 50	----	CS.d1†
Colfax	31 32	92 42	1904.1	6 42.8 E	61 28.6	.2682	6 45 E	61 31	.2678	CS.4
Many	31 34	93 29	1904.0	7 04.6 E	61 30.7	.2686	7 07 E	61 33	.2681	CS.4
Vidalia	31 35	91 26	1904.2	6 03.6 E	61 38.2	.2672	6 06 E	61 40	.2669	CS.4
Natchitoches	31 44	93 05	1834.3	- ----	62 11	----	- --	62 07	----	CS.1‡
Do.	31 44	93 07	1840.5	- ----	61 15.9	----	- --	61 20	----	CS.1†
Do.	31 46	93 04	1904.1	6 44.4 E	61 39.5	.2675	6 47 E	61 42	.2671	CS.4
Harrisonburg	31 47	91 49	1904.2	6 17.3 E	61 56.2	.2655	6 19 E	61 59	.2652	CS.4
Grand Ecore	31 48	93 07	1872.3	7 52.4 E	61 27.2	.2721	6 45 E	61 50	.2664	CS.d1
St. Joseph	31 56	91 14	1904.2	6 03.6 E	62 08.3	.2644	6 05 E	62 11	.2640	CS.4
Winnfield	31 57	92 36	1904.1	6 48.6 E	61 53.9	.2655	6 51 E	61 56	.2651	CS.4
Coushatta	32 01	93 22	1904.2	6 57.3 E	61 51.9	.2660	6 59 E	61 54	.2656	CS.4
Sabine River	32 01	94 00	1840.5	- ----	61 36.8	----	- --	61 42	----	CS.1†
Mansfield	32 03	93 41	1904.0	7 00.6 E	61 53.4	.2658	7 03 E	61 56	.2652	CS.4
Columbia	32 06	92 03	1901.3	6 19.7 E	62 08.2	.2653	6 26 E	62 19	.2638	CS.d2
Winnsboro	32 09	91 42	1904.2	6 12.9 E	62 15.8	.2635	6 15 E	62 18	.2631	CS.4
Tallulah	32 25	91 12	1904.1	6 00.7 E	62 33.4	.2619	6 03 E	62 36	.2615	CS.4
Rayville	32 28	91 45	1904.2	6 18.7 E	62 36.3	.2617	6 21 E	62 39	.2613	CS.4
Monroe	32 30	92 06	1904.1	6 26.6 E	62 33.7	.2621	6 29 E	62 36	.2618	CS.4
Shreveport	32 31	93 46	1904.1	6 59.1 E	62 23.7	.2636	7 01 E	62 26	.2633	CS.4
Ruston	32 33	92 37	1904.1	6 45.0 E	62 33.2	.2616	6 47 E	62 36	.2613	CS.4
Arcadia	32 33	92 56	1904.1	6 49.8 E	62 33.2	.2620	6 52 E	62 36	.2617	CS.4
Minden	32 38	93 17	1904.1	7 01.1 E	62 32.0	.2625	7 03 E	62 34	.2621	CS.4
Benton	32 40	93 44	1904.2	7 04.6 E	62 41.6	.2612	7 06 E	62 44	.2609	CS.4
Floyd	32 42	91 24	1904.2	6 14.5 E	62 59.0	.2590	6 16 E	63 02	.2587	CS.4
Farmerville	32 46	92 23	1904.1	6 39.9 E	62 50.3	.2605	6 42 E	62 53	.2601	CS.4
Bastrop	32 47	91 54	1904.2	6 19.7 E	62 53.5	.2605	6 21 E	62 56	.2602	CS.4
Lake Providence	32 48	91 10	1904.2	6 04.4 E	62 58.1	.2595	6 06 E	63 00	.2591	CS.4
Homer	32 48	93 03	1904.1	6 53.7 E	62 46.7	.2606	6 56 E	62 49	.2602	CS.4

MAINE

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Appledore Island	42 59	70 37	1847.6	10 03.5 W	74 44.1	.1605	13 22 W	73 19	.1695	CS.d1
Kittery Point	43 05	70 43	1898.9	13 12.3 W	73 43.8	.1687	13 33 W	73 37	.1696	CS.d2
Cape Neddick	43 12	70 36	1851.7	11 09.0 W	74 57.9	.1621	14 11 W	73 35	.1720	CS.d1
Agamenticus	43 13	70 42	1847.7	10 09.8 W	74 54.7	.1593	13 28 W	73 33	.1684	CS.d1
Kennebunkport	43 20	70 28	1903.8	14 12.4 W	73 57.7	.1663	14 16 W	73 57	.1663	CS.4
Fletcher Neck	43 27	70 20	1850.7	11 17.5 W	75 18.3	.1586	14 19 W	73 54	.1684	CS.d1
Richmond Island	43 33	70 14	1850.7	12 18.1 W	75 08.0	.1597	15 20 W	73 44	.1695	CS.d1
Portland	43 39	70 17	1906.8	14 57.0 W	74 02.8	.1660	14 52 W	74 05	.1657	CS.7
Bailey Island	43 43	70 00	1905.7	15 05.5 W	74 10.7	.1638	15 03 W	74 11	.1637	CS.6
Harpswell Neck	43 44	70 02	1905.7	16 33.9 W	73 55.8	.1671	16 32 W	73 56	.1670	CS.6

† Observations by J. D. Graham, Sill. J., Vol. IV, 1847.
‡ Observations by J. N. Nicollet, C. & G. S. Rep. 1864, App. 19.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

MAINE—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Mount Independence	43 46	70 19	1849.8	11 46.4 W	75 23.8	.1578	14 51 W	74 00	.1672	CS.d1
Cape Small	43 47	69 51	1851.8	12 05.5 W	75 01.8	.1563	14 48 W	73 37	.1662	CS.d1
Freeport	43 51	70 06	1863.5	14 11.7 W	75 20.3	.1563	16 16 W	74 07	.1643	CS.d1
Brunswick	43 54	69 58	1873.7	14 18.0 W	75 08.3	.1585	15 56 W	74 14	.1638	NA.d1
Bath	43 55	69 49	1863.5	12 51.8 W	75 25.5	.1545	14 46 W	74 12	.1624	CS.d1
Damariscotta	44 02	69 32	1887.6	15 12.8 W	74 34.5	.1600	16 00 W	74 07	.1632	CS.d1
Mount Pleasant	44 02	70 49	1851.6	14 32.1 W	76 01.5	.1481	17 14 W	74 34	.1581	CS.d1
Kimball Island	44 05	68 38	1905.6	15 49.7 W	74 20.7	.1622	15 48 W	74 21	.1621	CS.6
Rockland	44 06	69 06	1863.5	15 02.1 W	75 30.9	.1528	16 51 W	74 19	.1605	CS.d1
Do.	44 07	69 05	1906.7	16 37.2 W	74 21.0	.1622	16 32 W	74 22	.1619	CS.7
Do.	44 07	69 05	1905.6	16 29.8 W	74 18.7	.1626	16 28 W	74 19	.1625	CS.6
Do.	44 07	69 05	1905.8	16 31.2 W	74 13.9	.1636	16 29 W	74 15	.1635	CS.6
Mount Sabattus	44 09	70 05	1853.6	12 53.5 W	75 40.6	.1573	15 26 W	74 14	.1670	CS.d1
Camden village	44 12	69 05	1854.8	13 57.1 W	75 41.5	.1542	16 18 W	74 12	.1638	CS.d1
Mount Ragged	44 13	69 09	1854.7	14 16.8 W	75 41.2	.1542	16 38 W	74 11	.1638	CS.d1
Southwest Harbor	44 15	68 18	1905.8	16 20.6 W	74 47.2	.1581	16 19 W	74 48	.1579	CS.6
Mount Desert	44 21	68 14	1856.8	15 14.2 W	76 09.2	.1501	17 18 W	74 41	.1591	CS.d1
Bar Island	44 24	68 12	1904.8	16 51.6 W	74 48.7	.1573	16 52 W	74 48	.1574	CS.5
Do.	44 24	68 13	1904.8	16 46.2 W	74 51.6	.1560	16 47 W	74 51	.1560	CS.5
Jordans Island	44 25	68 08	1904.8	14 49.1 W	75 10.3	.1547	14 50 W	75 10	.1547	CS.5
Belfast	44 26	69 01	1863.5	15 30.3 W	75 38.1	.1533	17 17 W	74 25	.1610	CS.d1
Beans Island	44 28	68 13	1905.7	16 53.2 W	74 29.9	.1597	16 52 W	74 31	.1596	CS.6
Mill Bridge	44 32	67 54	1887.6	17 04.9 W	74 30.6	.1627	17 42 W	74 00	.1658	CS.d1
Howard	44 38	67 24	1859.6	18 31.6 W	75 21.6	.1594	20 16 W	73 56	.1678	CS.d1
Mount Saunders	44 39	68 36	1856.5	14 59.4 W	75 58.6	.1512	17 03 W	74 26	.1602	CS.d1
Epping Base, E end	44 40	67 50	1857.5	16 20 W	-- ----	----	18 10 W	-- --	----	CS.d
Mount Harris	44 40	69 09	1855.7	14 34.6 W	76 14.1	.1494	16 51 W	74 45	.1586	CS.d1
Farmington	44 40	70 11	1905.8	15 55.8 W	74 50.5	.1586	15 54 W	74 51	.1585	CS.6
Machiasport	44 41	67 24	1887.6	17 42.9 W	74 27.2	.1616	18 20 W	74 00	.1647	CS.d1
Pittsfield	44 46	69 22	1887.7	15 59.3 W	75 15.3	.1541	16 43 W	74 48	.1572	CS.d1
Bangor	44 48	68 48	1905.8	17 27.7 W	74 49.6	.1572	17 26 W	74 51	.1570	CS.6
Humpback	44 52	68 07	1858.6	15 47.8 W	76 12.0	.1485	17 35 W	74 43	.1572	CS.d1
Eastport	44 55	66 59	1895.6	18 53.2 W	74 37.6	.1598	19 14 W	74 23	.1614	CS.d1
Eastport I	44 55	66 59	1906.7	19 21.5 W	74 23.9	.1615	19 17 W	74 26	.1613	CI.
Eastport II	44 55	67 00	1906.7	19 39.2 W	74 20.5	.1619	19 35 W	74 23	.1617	CI.
Rangeley	44 58	70 38	1905.8	16 17.8 W	74 52.4	.1587	16 15 W	74 53	.1586	CS.6
Cooper	44 59	67 28	1859.7	16 31.9 W	76 20.3	.1466	18 16 W	74 54	.1550	CS.d1
Calais	45 11	67 17	1895.6	17 25.3 W	75 11.3	.1547	17 47 W	74 57	.1564	CS.d1
Do.	45 11	67 17	1906.7	17 58.4 W	74 42.2	.1578	17 54 W	74 45	.1576	CI.
Greenville	45 28	69 36	1887.7	16 48.1 W	75 36.3	.1506	17 22 W	75 08	.1537	CS.d1
Mattawamkeag	45 31	68 24	1887.7	17 56.6 W	75 34.4	.1498	18 33 W	75 04	.1529	CS.d1
Vanceboro	45 34	67 27	1887.7	18 21.6 W	75 36.4	.1485	18 58 W	75 06	.1516	CS.d1
Danforth	45 40	67 58	1887.7	18 22.7 W	75 41.2	.1486	18 59 W	75 11	.1517	CS.d1
Houlton	46 07	67 53	1887.7	19 00.3 W	76 01.8	.1456	19 30 W	75 32	.1485	CS.d1
Presque Isle	46 39	68 00	1887.7	20 03.8 W	76 30.9	.1426	20 34 W	76 01	.1455	CS.d1

MARYLAND

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Crisfield	38 00	75 50	1896.9	4 44.4 W	69 36.8	.2074	5 11 W	69 38	.2055	MS.II
Pocomoke City	38 05	75 34	1896.7	5 11.8 W	69 43.8	.2065	5 38 W	69 45	.2046	MS.II
Snow Hill, C. H.	38 10	75 24	1896.7	5 03.8 W	69 41.8	.2069	5 30 W	69 43	.2050	MS.II
Snow Hill, S. M.	38 10	75 24	1900.4	5 23.6 W	-- ----	----	5 38 W	-- --	----	CS.d
Snow Hill, N. M.	38 10	75 24	1900.4	5 23.8 W	-- ----	----	5 38 W	-- --	----	CS.d
Princess Anne, H. S.	38 12	75 42	1896.7	5 04.3 W	69 52.8	.2057	5 30 W	69 54	.2038	MS.II
Princess Anne, S. M.	38 12	75 42	1900.4	5 16.6 W	-- ----	----	5 31 W	-- --	----	CS.d
Princess Anne, N. M.	38 12	75 42	1900.4	5 11.8 W	-- ----	----	5 26 W	-- --	----	CS.d
Mason's Landing	38 14	75 15	1856.6	2 22.8 W	70 44.8	.2032	5 16 W	69 47	.2044	CS.d1
Hooper Island	38 14	76 08	1902.0	5 13 W	-- ----	----	5 22 W	-- --	----	CS.d
Leonardtown, C. H.	38 17	76 38	1896.7	4 43.2 W	69 36.9	.2086	5 09 W	69 39	.2065	MS.II
Leonardtown, S. M.	38 17	76 38	1900.5	4 54.6 W	-- ----	----	5 08 W	-- --	----	CS.d
Ocean City	38 20	75 06	1896.7	5 27.5 W	70 01.8	.2038	5 54 W	70 03	.2020	MS.II
Davis	38 20	75 06	1853.7	2 33.0 W	70 57.7	.1997	5 32 W	70 05	.2008	CS.d1
Berlin	38 20	75 13	1896.7	5 25.3 W	69 58.4	.2054	5 51 W	70 00	.2036	MS.II
Salisbury, M. L.	38 22	75 38	1896.9	5 09.7 W	70 03.5	.2045	5 36 W	70 05	.2027	MS.II
Calvert	38 22	76 24	1871.6	2 48.9 W	70 33.9	.2064	4 46 W	69 54	.2053	CS.d1

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

MARYLAND—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Parsonsburg	38 24	75 27	1896.7	5 22.9 W	70 03.0	.2044	5 49 W	70 04	.2027	MS.II
Mechanicsville	38 27	76 45	1896.7	4 43.4 W	69 47.5	.2044	5 11 W	69 50	.2023	MS.II
La Plata	38 31	76 58	1905.5	5 04.8 W	70 02.3	.2040	5 03 W	70 02	.2041	CS.5
Prince Fredericks-town	38 32	76 35	1896.8	5 10.4 W	69 57.5	.2063	5 36 W	69 59	.2042	MS.II
Prince Fredericks-town, S. M.	38 32	76 35	1900.5	5 24.3 W	-- ----	----	5 40 W	-- --	----	CS.d
Prince Fredericks-town, N. M.	38 32	76 35	1900.5	5 18.6 W	-- ----	----	5 34 W	-- --	----	CS.d
Cambridge	38 34	76 05	1897.3	5 24.0 W	69 59.5	.2049	5 48 W	70 01	.2028	MS.II
Hurlock	38 38	75 53	1896.7	5 24.9 W	70 07.6	.2040	5 51 W	70 10	.2019	MS.II
Oxford	38 41	76 10	1897.5	5 33.9 W	70 05.8	.2048	5 57 W	70 08	.2028	MS.II
Brandywine	38 42	76 51	1896.7	- ----	70 15.2	----	- --	70 17	----	MS.II
Tilghman I.	38 43	76 20	1897.3	5 23.4 W	70 04.4	.2048	5 48 W	70 06	.2028	MS.II
Cheltenham Obs.	38 44	76 50	1905.0	5 15.7 W	70 25.3	.2009	5 16 W	70 25	.2009	CS.5
Fairhaven	38 45	76 33	1897.5	5 23.2 W	70 12.4	.2037	5 48 W	70 14	.2017	MS.II
Easton	38 46	76 04	1897.4	5 34.3 W	70 15.8	.2030	5 57 W	70 18	.2010	MS.II
Upper Marlboro	38 49	76 45	1903.3	5 27.6 W	70 20.1	.2013	5 33 W	70 21	.2006	CS.3
Centerville	38 49	76 52	1900.3	- ----	70 19.6	----	- --	70 22	----	CS.2
Marriott	38 52	76 37	1849.4	2 05.0 W	71 12.9	.1997	5 30 W	70 23	.1997	CS.d1
Denton, S. M.	38 53	75 52	1900.4	5 54.8 W	-- ----	----	6 09 W	-- --	----	CS.d
Denton, N. M.	38 53	75 52	1900.4	6 04.3 W	-- ----	----	6 19 W	-- --	----	CS.d
Kent I., S. B.	38 54	76 22	1897.5	5 21.4 W	70 31.8	.2015	5 45 W	70 34	.1995	MS.II
Hill	38 54	76 53	1868.8	2 51.1 W	71 17.1	.2015	5 03 W	70 34	.2012	CS.d1
Bay Ridge	38 56	76 27	1897.6	- ----	70 34.2	----	- --	70 36	----	MS.II
Ridgely	38 57	75 53	1896.7	5 44.3 W	70 27.8	.2016	6 10 W	70 30	.2000	MS.II
Stevensville	38 59	76 19	1897.5	- ----	70 31.6	.1995	- --	70 34	.1975	MS.II
Annapolis, N. A.	38 59	76 29	1896.8	5 16.1 W	70 39.7	.2004	5 42 W	70 42	.1983	MS.II
Annapolis, S. M.	38 59	76 29	1900.5	5 30.8 W	-- ----	----	5 45 W	-- --	----	CS.d
Annapolis, N. M.	38 59	76 30	1900.5	5 34.8 W	-- ----	----	5 49 W	-- --	----	CS.d
Taylor	39 00	76 28	1847.4	2 18.0 W	71 19.3	.1946	5 52 W	70 31	.1940	CS.d1
Linden	39 00	77 03	1905.3	3 56.3 W	70 50.6	.1958	3 55 W	70 50	.1959	CS.5
Forest Glen	39 01	77 03	1896.9	3 37.0 W	70 28.6	.1996	4 02 W	70 31	.1976	MS.II
Kent I., Sta. I.	39 02	76 19	1849.5	2 30.2 W	71 16.6	.1986	5 50 W	70 27	.1986	CS.d1
Centerville, Acad.	39 03	76 04	1897.1	5 52.4 W	70 32.0	.2013	6 16 W	70 34	.1993	MS.II
Centerville, C. H.	39 04	76 04	1897.4	5 53.9 W	-- ----	.2024	6 18 W	-- --	----	MS.II
Seneca	39 04	77 21	1899.6	2 31.4 W	70 53.6	----	2 49 W	70 56	.2004	CS.d2
Webb	39 05	76 40	1897.5	5 02.3 W	70 43.0	.1994	5 26 W	70 45	.1974	MS.II
Soper	39 05	76 57	1850.6	2 07.1 W	71 56.5	.1911	5 30 W	71 06	.1914	CS.d1
Rockville, A.	39 05	77 09	1897.5	5 24.6 W	70 05.9	----	5 48 W	70 08	----	MS.II
Rockville, S. M.	39 05	77 09	1903.3	6 02.2 W	70 00.8	.2046	6 08 W	70 01	.2041	CS.3
Laurel	39 06	76 50	1897.5	- ----	70 44.8	.1984	- --	70 46	.1964	MS.II
Hunting Hill	39 06	77 12	1899.6	6 08.5 W	70 00.6	.1986	6 26 W	70 03	.1969	CS.d2
Stabler	39 07	76 59	1869.6	2 39.9 W	-- ----	.1973	4 48 W	-- --	.1968	CS.d1
Do.	39 07	76 59	1896.9	- ----	70 29.2	----	- --	70 31	----	MS.II
Derwood	39 07	77 10	1899.5	8 22.5 W	70 17.2	.2039	8 40 W	70 19	.2021	CS.d2
Quince Orchard	39 07	77 15	1899.6	4 15.1 W	71 01.3	.1967	4 32 W	71 03	.1950	CS.d2
Bodkin Light	39 08	76 26	1847.3	2 01.9 W	71 43.1	.1932	5 31 W	70 54	.1926	CS.d1
Redland	39 08	77 09	1899.5	6 34.6 W	70 23.4	.2009	6 52 W	70 26	.1992	CS.d2
Gaithersburg	39 08	77 11	1899.4	5 17.1 W	70 26.2	.1992	5 35 W	70 28	.1974	CS.d2
Gaithersburg, Obs.	39 08	77 12	1901.4	6 30.0 W	70 45.4	.1979	6 42 W	70 47	.1967	CS.d2
Gaithersburg, I	39 08	77 12	1899.5	5 41.9 W	70 45.4	.1978	5 59 W	70 48	.1961	CS.d2
Gaithersburg, II	39 08	77 12	1899.5	5 54.6 W	70 49.2	.1972	6 12 W	70 51	.1955	CS.d2
Gaithersburg, III	39 08	77 12	1899.5	5 26.6 W	70 47.6	.1977	5 44 W	70 49	.1960	CS.d2
Dawsonville	39 08	77 20	1903.3	4 13.0 W	70 36.0	.1983	4 19 W	70 37	.1976	CS.3
Cross Roads, II	39 10	77 09	1899.5	6 09.4 W	70 39.4	.2018	6 27 W	70 42	.2001	CS.d2
Waring	39 10	77 15	1899.5	0 48.8 W	71 46.5	.1881	1 06 W	71 49	.1864	CS.d2
Boyds	39 10	77 20	1903.3	4 03.6 W	70 36.2	.1973	4 09 W	70 37	.1966	CS.3
Cross Roads, I	39 11	77 12	1899.5	6 03.0 W	70 42.6	.2013	6 20 W	70 45	.1996	CS.d2
Middlebrook	39 11	77 14	1899.5	4 49.7 W	70 40.6	.1983	5 07 W	70 43	.1966	CS.d2
North Point	39 12	76 27	1846.5	- ----	71 29.5	.1929	- --	70 42	.1923	CS.1
Do.	39 12	76 27	1847.3	1 39.6 W	-- ----	----	5 09 W	-- --	----	CS.d
Fairfax Stone	39 12	79 29	1897.6	3 07.2 W	70 28.8	.2022	3 30 W	70 32	.2004	MS.II
Chestertown	39 13	76 05	1897.4	5 47.0 W	70 41.0	.2003	6 11 W	70 43	.1986	MS.II
Tolchester	39 13	76 14	1897.4	5 37.1 W	70 51.4	.1971	6 01 W	70 53	.1954	MS.II
Camp Fairfax	39 13	79 29	1897.6	3 05.8 W	70 34.4	.2026	3 28 W	70 37	.2007	MS.II
Camp Potomac	39 13	79 30	1897.7	- ----	70 31.6	----	- --	70 34	----	MS.II
Unity	39 14	77 04	1896.8	5 36.0 W	70 27.6	.2006	6 02 W	70 30	.1985	MS.II
Dickerson	39 14	77 25	1900.2	2 33.0 W	70 48.9	.1966	2 48 W	70 51	.1950	CS.d2

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

MARYLAND—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Backbone Mountain	39 14	79 29	1897.6	3 06.9 W	70 28.7	.2020	3 29 W	70 32	.2002	MS.II
Point of Rocks	39 16	77 32	1896.8	- ----	70 47.2	.2000	- --	70 49	.1979	MS.II
Ellicott City	39 16	76 48	1896.8	4 44.3 W	70 38.2	.2006	5 10 W	70 40	.1985	MS.II
Ellicott City, S. M.	39 16	76 48	1900.4	5 12.9 W	-- ----	----	5 28 W	-- --	----	CS.d
Ellicott City, N. M.	39 16	76 48	1900.4	4 59.6 W	-- ----	----	5 14 W	-- --	----	CS.d
Pooles Island	39 17	76 16	1847.5	2 29.3 W	71 52.1	.1898	5 58 W	71 03	.1894	CS.d1
Damascus	39 17	77 12	1896.9	4 02.8 W	70 50.4	.1974	4 28 W	70 53	.1953	MS.II
Corunna, N. M.	39 17	79 23	1900.4	3 22.9 W	70 30.0	.2012	3 37 W	70 33	.1998	CS.d2
Baltimore, Fort	39 16	76 35	1904.0	5 47.0 W	70 56.2	.1952	5 50 W	70 57	.1950	CS.4
Baltimore, Patterson Park, II	39 17	76 35	1905.5	5 52.7 W	70 44.8	.1961	5 51 W	70 45	.1962	CS.6
Baltimore, Patterson Park, III	39 18	76 34	1905.9	5 55.2 W	70 49.5	.1958	5 52 W	70 49	.1961	CS.6
Baltimore, Patterson Park, I	39 18	76 35	1906.0	5 53.8 W	70 45.6	.1965	5 51 W	70 45	.1968	CS.6
Massey	39 18	75 48	1896.7	6 25.0 W	70 52.4	.1977	6 51 W	70 54	.1961	MS.II
Rosanne	39 18	76 43	1845.4	2 10.9 W	72 06.6	.1869	5 53 W	71 20	.1856	CS.d1
Woodstock	39 20	76 52	1897.3	- ----	-- ----	.1971	- --	-- --	.1952	MS.II
Lisbon	39 20	77 04	1899.4	4 41.8 W	71 23.6	.1972	4 59 W	71 26	.1955	CS.d2†
Maryland Heights	39 20	77 43	1897.6	4 19.2 W	70 50.4	.1990	4 42 W	70 53	.1970	MS.II
Foley Mountain	39 21	79 30	1897.7	3 16.0 W	70 31.5	.2016	3 38 W	70 35	.1998	MS.II
Betterton	39 22	76 04	1899.5	4 03.9 W	71 18.4	.1931	4 21 W	71 21	.1914	CS.d2†
Sykesville	39 22	76 58	1899.4	6 24.0 W	70 53.3	.2004	6 42 W	70 56	.1987	CS.d2†
Lower Hill	39 22	79 29	1897.7	3 16.7 W	-- ----	.2016	3 39 W	-- --	.1998	MS.II
Finlay	39 24	76 32	1846.3	2 18.5 W	71 47.9	.1896	5 58 W	71 00	.1886	CS.d1
Towson, M. L.	39 24	76 36	1897.3	5 46.6 W	70 55.9	.1960	6 11 W	70 58	.1940	MS.II
Bradshaw	39 25	76 23	1897.4	5 18.8 W	71 17.0	.1928	5 43 W	71 19	.1908	MS.II
Frederick	39 25	77 25	1896.8	4 42.2 W	70 47.1	.1990	5 08 W	70 50	.1970	MS.II
Oakland, Sch. H.	39 25	79 25	1896.8	3 14.5 W	70 42.3	.2015	3 40 W	70 45	.1997	MS.II
Oakland, M. L.	39 25	79 25	1904.6	3 30.7 W	70 41.1	.1997	3 32 W	70 41	.1996	CS.5
Swanton	39 27	79 12	1899.4	3 36.6 W	70 40.4	.2006	3 53 W	70 43	.1991	CS.d2†
Belcamp	39 28	76 14	1896.8	6 05.7 W	71 06.6	.1947	6 32 W	71 08	.1926	MS.II
Osbornes Ruin	39 28	76 17	1845.5	2 32.4 W	71 47.6	.1910	6 09 W	71 01	.1897	CS.d1
Reistertown	39 28	76 50	1899.4	7 02.6 W	70 41.8	.2019	7 20 W	70 43	.2002	CS.d2†
Allegany—Garrett, B. L.	39 28	79 03	1898.5	3 09.1 W	-- ----	----	3 30 W	-- --	----	MS.II
Hydes	39 29	76 29	1897.3	5 44.7 W	70 49.0	.1959	6 09 W	70 51	.1939	MS.II
Cockeysville	39 29	76 39	1896.7	6 02.1 W	71 00.2	.1963	6 28 W	71 01	.1942	MS.II
Libertytown	39 29	77 14	1899.4	4 47.2 W	70 50.2	.1976	5 05 W	70 52	.1960	CS.d2†
Westernport	39 29	79 02	1897.6	3 46.2 W	70 51.0	.1998	4 09 W	70 54	.1979	MS.II
Snaggy Mountain	39 29	79 29	1897.7	3 37.2 W	70 33.1	.2012	4 00 W	70 36	.1993	MS.II
Harford Furnace	39 30	76 16	1896.8	- ----	71 04.0	----	- --	71 06	----	MS.II
Allegany—Garrett, B. L.	39 30	79 03	1898.5	3 46.8 W	-- ----	----	4 07 W	-- --	----	MS.II
Taylors Hill	39 30	79 30	1897.7	3 31.7 W	70 40.3	.2006	3 54 W	70 43	.1987	MS.II
Creswell	39 31	76 17	1896.8	- ----	71 07.6	----	- --	71 09	----	MS.II
Havre de Grace	39 32	76 05	1899.5	5 24.4 W	70 58.5	.1939	5 42 W	71 00	.1923	CS.d2†
Belair, hotel	39 32	76 21	1896.8	5 40.7 W	70 25.0	.2017	6 06 W	70 27	.1996	MS.II
Belair, Dallams	39 32	76 21	1897.4	4 37.2 W	70 14.6	----	5 01 W	70 16	----	MS.II
Fountain Green	39 33	76 18	1896.8	- ----	70 48.3	----	- --	70 50	----	MS.II
Allegany—Garrett, B. L.	39 33	79 01	1898.5	3 54.4 W	-- ----	----	4 12 W	-- --	----	MS.II
McHenry	39 33	79 21	1899.4	3 36.3 W	70 43.6	.1994	3 53 W	70 47	.1978	CS.d2†
Churchville	39 34	76 15	1897.4	5 43.2 W	70 55.8	.1952	6 08 W	70 58	.1934	MS.II
Lonaconing	39 34	78 59	1898.7	3 51.0 W	70 46.2	.2000	4 10 W	70 50	.1985	MS.II
Fikes Hill, West	39 34	79 30	1897.8	3 40.4 W	70 42.1	.2005	4 02 W	70 45	.1987	MS.II
Fikes Hill, East	39 35	79 29	1897.8	3 40.3 W	70 41.9	.2004	4 02 W	70 45	.1986	MS.II
Frenchtown	39 35	75 51	1840.6	- ----	71 40.2	.1988	- --	71 00	.1988	CS.1
Thomas Run	39 35	76 17	1897.4	5 37.8 W	70 43.3	.1992	6 02 W	70 45	.1973	MS.II
Hickory	39 35	76 20	1897.4	- ----	71 26.8	----	- --	71 29	----	MS.II
Forrest Hill	39 35	76 23	1896.9	5 24.5 W	71 06.6	.1955	5 51 W	71 08	.1936	MS.II
Westminster	39 35	77 00	1896.8	5 06.9 W	70 34.1	.2019	5 33 W	70 36	.2001	MS.II
Westminster, S. M.	39 35	77 00	1900.5	4 45.0 W	-- ----	----	5 00 W	-- --	----	CS.d
Westminster, N. M.	39 35	77 00	1900.5	4 48.1 W	-- ----	----	5 03 W	-- --	----	CS.d
Allegany—Garrett, B. L.	39 35	79 00	1898.5	3 54.1 W	-- ----	----	4 15 W	-- --	----	MS.II
Elkton, H. S.	39 36	75 50	1896.8	5 12.0 W	70 57.4	.1985	5 38 W	70 59	.1970	MS.II

† Joint auspices of U. S. Coast and Geodetic Survey and Maryland Geological Survey (W. B. Clark, State geologist.)

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

MARYLAND—Continued

Station	Latitude N.	Longitude W. of G.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Elkton, S. M.	39 36	75 50	1900.4	5 21.3 W	-- ----	----	5 35 W	-- --	----	CS.d
Elkton, N. M.	39 36	75 50	1900.4	5 51.5 W	-- ----	----	6 06 W	-- --	----	CS.d
Hagerstown	39 38	77 43	1896.8	4 34.2 W	71 04.2	.1967	5 00 W	71 07	.1951	MS.II
Hagerstown, N. M.	39 38	77 45	1900.4	4 36.7 W	70 56.1	.1967	4 51 W	70 57	.1956	CS.d2
Allegany—Garrett, B. L.	39 38	78 58	1898.5	4 00.2 W	-- ----	----	4 21 W	-- --	----	MS.II
New Germany	39 38	79 07	1899.4	3 59.0 W	70 50.8	.1987	4 15 W	70 53	.1973	CS.d2†
Accident	39 38	79 19	1899.4	3 44.8 W	70 46.3	.1987	4 02 W	70 49	.1973	CS.d2†
Dublin (gabbro-rock)*	39 39	76 16	1897.4	10 00.9 W	72 15.2	.1862	10 25 W	72 17	.1849	MS II
Scarboro	39 39	76 17	1897.4	-- ----	70 39.2	----	- --	70 41	----	MS.II
Minefield	39 39	76 22	1897.4	6 53.7 W	72 04.8	.1907	7 18 W	72 07	.1893	MS.II
Parkton	39 39	76 40	1899.5	5 59.1 W	70 58.4	.1956	6 17 W	71 00	.1940	CS.d2†
Cumberland	39 39	78 46	1896.8	4 02.7 W	70 59.4	.1982	4 28 W	71 02	.1966	MS.II
Highland	39 40	76 22	1897.4	5 33.2 W	71 03.7	.1968	5 58 W	71 05	.1950	MS.II
Manchester	39 40	76 53	1899.4	5 34.7 W	70 59.2	.1968	5 53 W	71 01	.1955	CS.d2†
Taneytown	39 40	77 11	1899.4	4 57.8 W	71 01.0	.1963	5 16 W	71 03	.1950	CS.d2†
Cumberland, M. L.	39 40	78 46	1897.6	4 06.4 W	-- ----	----	4 30 W	-- --	----	MS.II
Allegany—Garrett, B. L.	39 40	78 57	1898.5	4 02.9 W	-- ----	----	4 23 W	-- --	----	MS.II
Emmitsburg	39 41	77 18	1842.3	- ----	71 46.3	.1957	-- --	71 02	.1979	CS.1
Frostburg	39 41	78 56	1840.6	- ----	71 31.3	.1982	-- --	70 41	.2014	CS.1
Calvert	39 42	75 58	1899.5	5 26.0 W	71 02.8	.1953	5 43 W	71 03	.1942	CS.d2†
Rising Sun	39 42	76 03	1899.5	5 08.8 W	71 12.7	.1958	5 26 W	71 13	.1948	CS.d2†
Hancock	39 42	78 10	1897.6	4 24.9 W	71 02.3	.1972	4 48 W	71 05	.1956	MS.II
Grantsville	39 42	79 09	1899.4	3 58.4 W	70 51.8	.1989	4 15 W	70 54	.1973	CS.d2†
Cardiff	39 43	76 19	1897.4	6 51.1 W	70 49.8	----	7 16 W	70 52	----	MS.II
Do.	39 43	76 20	1897.4	7 27.7 W	70 37.7	.2011	7 53 W	70 40	.1998	MS.II
Do.	39 43	76 20	1897.4	8 35.5 W	70 24.9	.1906	9 00 W	70 27	.1893	MS.II
Do.	39 43	76 20	1896.9	4 25.9 W	71 16.2	.1949	4 51 W	71 19	.1936	MS.II
Allegany—Garrett, B. L.	39 43	78 55	1898.5	4 04.2 W	-- ----	----	4 25 W	-- --	----	MS.II

MASSACHUSETTS

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Nantucket Cliff	41 17	70 06	1895.5	12 11.1 W	72 40.3	.1780	12 37 W	72 27	.1788	CS.d1
Sampson Hill	41 23	70 29	1846.6	8 48.7 W	73 24.5	.1730	11 57 W	72 03	.1812	CS.d1
Indian	41 26	70 41	1846.6	8 49.4 W	73 29.1	.1719	12 02 W	72 08	.1802	CS.d1
Vineyard Haven	41 27	70 36	1906.9	12 22.6 W	72 19.0	.1799	12 16 W	72 21	.1797	CS.7
Tarpaulin Cove	41 28	70 45	1846.6	9 12.1 W	73 49.8	.1704	12 25 W	72 28	.1789	CS.d1
Fairhaven	41 37	70 54	1903.8	12 09.5 W	72 55.5	.1767	12 13 W	72 54	.1768	CS.4
Hyannis	41 38	70 18	1846.7	9 21.6 W	73 49.2	.1698	12 30 W	72 25	.1783	CS.d1
Chatham	41 40	69 57	1860.7	11 11.6 W	73 46.2	.1726	13 26 W	72 24	.1813	CS.d1
Shootflying	41 41	70 21	1846.7	9 40.3 W	73 56.5	.1689	12 48 W	72 32	.1774	CS.d1
Copecut	41 43	71 04	1844.8	9 08.8 W	74 09.5	----	12 33 W	72 50	----	CS.d1
Cromeset	41 44	70 43	1887.4	11 46 W	-- ----	----	12 39 W	-- --	----	CS.d
Wellfleet	41 56	70 02	1860.7	10 43.5 W	74 20.2	.1677	12 58 W	72 58	.1768	CS.d1
Manomet	41 56	70 36	1867.6	10 24.6 W	73 58.5	.1731	12 17 W	72 52	.1801	CS.d1
Plymouth	41 58	70 39	1876.5	10 54.8 W	73 48.3	.1727	12 24 W	73 00	.1777	NA.d1
Mansfield	42 01	71 13	1905.8	12 27.5 W	72 56.2	.1762	12 25 W	72 57	.1762	CS.6
Provincetown	42 03	70 11	1895.5	12 59.2 W	73 03.4	.1747	13 25 W	72 50	.1760	CS.d1
Springfield	42 06	72 35	1859.6	8 39 W	74 14 9	.1702	11 10 W	72 57	.1777	CS.d1
Sheffield	42 06	73 22	1905.8	11 11.8 W	73 10.8	.1753	11 10 W	73 12	.1753	CS.6
Blue Hill	42 13	71 07	1845.7	9 13.5 W	75 05.6	.1622	12 41 W	73 44	.1707	CS.d1
Huntington	42 14	72 54	1905.8	12 10.9 W	73 15.0	.1734	12 09 W	73 16	.1733	CS.6
Easthampton	42 15	72 40	1862.5	9 04.4 W	74 06.1	.1702	11 32 W	72 51	.1775	CS.d1
Worcester (M. L.)	42 17	71 48	1898.9	11 42.6 W	73 20.0	.1732	12 05 W	73 14	.1737	CS.d2
Worcester (P. I.)	42 17	71 48	1898.9	-- ----	73 18.4	.1739	-- --	73 12	.1744	CS.2
Nantasket	42 18	70 54	1847.7	9 37.4 W	74 15.7	.1644	13 02 W	72 50	.1734	CS.d1
Boston	42 20	71 01	1906.8	13 04.0 W	73 01.0	.1750	12 58 W	73 03	.1747	CS.7
Cambridge	42 23	71 08	1895.5	12 22.3 W	73 15.6	.1731	12 59 W	73 03	.1744	CS.d1
Chesterfield	42 24	72 51	1859.5	8 54 W	74 21.2	.1691	11 37 W	73 07	.1761	CS.d1
Little Nahant	42 26	70 56	1849.6	9 40.9 W	74 29.5	.1640	12 58 W	73 01	.1734	CS.d1
Swampscott A	42 27	70 56	1906.7	12 02.6 W	72 40.4	.1815	11 57 W	72 42	.1813	CI.

† Joint auspices of U. S. Coast and Geodetic Survey and Maryland Geological Survey (W. B. Clark, State geologist).

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

MASSACHUSETTS—Continued

Station	Lati-tude N.	Longi-tude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Swampscott B	42 27	70 56	1906.7	13 10.2 W	72 28.8	.1856	13 04 W	72 30	.1854	CI.
Pittsfield	42 27	73 17	1905.8	11 17.2 W	73 24.7	.1722	11 15 W	73 25	.1722	CS.6
Concord	42 28	71 23	1905.8	13 01.7 W	73 20.3	.1722	12 59 W	73 21	.1721	CS.6
Wachusett	42 29	71 53	1860.7	8 48.0 W	74 28.8	.1675	11 09 W	73 13	.1762	CS.d1
Coddon Hill	42 31	70 51	1849.7	11 49.8 W	-- ----	----	15 06 W	-- --	----	CS.d
Baker Island	42 32	70 47	1849.7	12 17.0 W	74 18.6	.1698	15 33 W	72 51	.1792	CS.d1
Salem	42 32	70 52	1906.8	14 28.4 W	73 40.7	.1738	14 22 W	73 42	.1736	CS.7
Deerfield	42 33	72 36	1859.5	9 25 W	74 35.3	.1668	12 03 W	73 21	.1739	CS.d1
Fitchburg	42 35	71 48	1876.6	10 43.6 W	74 09.8	.1703	12 10 W	73 23	.1745	NA.d1
Greenfield	42 35	72 35	1876.6	10 20.2 W	74 06.1	.1707	12 00 W	73 20	.1746	NA.d1
Beaconhill	42 36	70 39	1859.5	12 03 W	74 45.6	.1681	14 34 W	73 22	.1775	CS.d1
Thompson	42 37	70 44	1859.5	11 09 W	74 30.4	.1694	13 40 W	73 06	.1788	CS.d1
Athol	42 37	72 17	1905.8	12 13.0 W	73 24.3	.1718	12 10 W	73 25	.1718	CS.6
Annisquam	42 39	70 41	1849.7	11 36.7 W	-- ----	----	14 49 W	-- --	----	CS.d
Do.	42 39	70 41	1859.5	-- ----	74 56.1	.1655	-- --	73 33	.1749	CS.1
Lowell	42 39	71 20	1876.6	10 47.9 W	74 19.3	.1676	12 19 W	73 32	.1725	NA.d1
Rockport	42 40	70 37	1859.5	11 37 W	75 05.9	.1627	14 05 W	73 43	.1721	CS.d1
Ipswich	42 41	70 50	1859.5	11 14 W	74 37.3	.1659	13 42 W	73 14	.1753	CS.d1
Lawrence	42 42	71 12	1905.8	12 35.3 W	73 31.6	.1703	12 32 W	73 32	.1702	CS.6
North Adams	42 42	73 08	1876.6	10 30.8 W	74 15.3	.1710	12 12 W	73 31	.1748	NA.d1
Williamstown	42 42	73 12	1898.9	11 31.1 W	73 28.4	.1728	11 50 W	73 24	.1732	CS.d2
Newburyport	42 48	70 51	1905.8	13 22.0 W	73 35.7	.1697	13 19 W	73 36	.1696	CS.6
Do.	42 48	70 49	1905.8	13 22.2 W	73 31.9	.1692	13 19 W	73 33	.1691	CI.

MICHIGAN

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Sturgis	41 48	85 26	1900.8	0 43.5 E	72 26.0	.1863	0 36 E	72 27	.1850	CS.d2
Ypsilanti	42 14	83 36	1894.0	2 13 W	71 30	----	2 45 W	71 28	----	CS.d1†
Do.	42 14	83 36	1902.4	2 14 W	-- --	----	2 20 W	-- --	----	CS.d†
Jackson	42 15	84 23	1905.9	0 19.3 W	73 04.4	.1802	0 18 W	73 04	.1805	CS.6
Marshall	42 16	84 58	1876.8	1 41.7 E	73 30.9	.1809	0 01 E	73 03	.1802	LS.d1
Ann Arbor	42 17	83 43	1905.9	2 01.3 W	72 51.2	.1825	2 00 W	72 51	.1828	CS.6
Kalamazoo	42 18	85 35	1900.9	1 19.0 E	-- ----	----	1 11 E	-- --	----	CS.d
Do.	42 20	85 34	1900.9	1 05.3 E	73 00.6	.1823	0 57 E	73 01	.1810	CS.d2
Detroit, Ft. Wayne	42 18	83 06	1901.6	0 59.1 W	-- ----	----	1 07 W	-- --	----	LS.3E
Detroit	42 20	82 58	1900.9	1 12.0 W	72 57.9	.1799	1 22 W	72 58	.1791	CS.d2
Detroit, Belle I.	42 20	82 58	1904.9	1 15.5 W	73 09.5	.1787	1 16 W	73 10	.1787	LS.3E
Do.	42 20	82 58	1906.3	1 30.8 W	73 08.5	.1788	1 28 W	73 08	.1789	LS.
South Haven	42 24	86 17	1904.8	1 12.7 E	73 11	.1775	1 12 E	73 11	.1775	LS.3E
Eaton Rapids	42 32	84 38	1870.7	- ----	73 40.0	.1775	- --	73 10	.1771	CS.1
Russel Island	42 37	82 31	1903.8	3 01.8 W	-- ----	----	3 04 W	-- --	----	LS.3E
Hastings	42 39	85 18	1905.8	0 20.3 E	73 23.4	.1776	0 22 E	73 23	.1779	CS.6
Lansing	42 44	84 32	1905.8	0 15.9 W	73 28.4	.1763	0 14 W	73 28	.1766	CS.6
Fort Gratiot	43 00	82 25	1873.5	0 37.0 W	74 22	.1713	2 36 W	73 49	.1724	LS.d1
Do.	43 00	82 25	1903.8	3 02.1 W	-- --	----	3 06 W	-- --	----	LS.3E
Flint	43 00	83 39	1905.8	1 35.1 W	73 53.8	.1721	1 33 W	73 54	.1723	CS.6
St. Johns	43 00	84 32	1905.8	0 18.7 W	73 39.4	.1756	0 17 W	73 39	.1758	CS.6
Grand Haven	43 04	86 15	1904.8	1 10.4 E	73 46	.1732	1 10 E	73 46	.1732	LS.3E
Do.	43 05	86 13	1891.6	1 39.1 E	73 34.7	.1773	0 59 E	73 35	.1756	CS.d1
Stanton	43 18	85 05	1905.8	0 13.7 W	74 08.3	.1713	0 13 W	74 08	.1715	CS.6
Wahley	43 22	82 32	1860.4	1 05.0 W	74 41	.1692	4 07 W	74 03	.1706	LS.d1
New London Pt.	43 22	82 32	1905.6	4 08.9 W	73 54	.1705	4 07 W	73 54	.1706	LS.
St. Louis	43 24	84 36	1876.8	0 58.6 E	73 48.9	.1680	0 47 W	73 22	.1673	LS.d1
Saginaw	43 25	83 58	1876.7	0 23.4 E	73 36.2	.1693	1 23 W	73 09	.1686	LS.d1
Forestville	43 40	82 34	1873.5	1 30.7 W	74 54	.1676	3 40 W	74 24	.1693	LS.d1
Do.	43 40	82 36	1905.6	4 06.0 W	74 24	.1687	4 05 W	74 24	.1688	LS.
Big Rapids	43 41	85 31	1905.8	0 25.7 E	74 10.5	.1695	0 27 E	74 10	.1698	CS.6
Sand Beach	43 51	82 39	1901.5	2 41.5 W	-- ----	----	2 49 W	-- --	----	LS.3E
Harbor Beach	43 51	82 39	1905.6	3 34.8 W	74 42	.1633	3 33 W	74 42	.1634	LS.
Sand Point	43 54	83 20	1905.6	2 35.7 W	74 29	.1660	2 34 W	74 29	.1660	LS.
Do.	43 55	83 23	1858.7	0 32 E	75 02	.1647	2 40 W	74 22	.1650	LS.d 1
Ludington	43 57	86 28	1904.8	1 37.2 E	74 20	.1695	1 37 E	74 20	.1695	LS.3E
Gladwin	43 58	84 23	1905.8	1 04.1 W	74 37.6	.1669	1 02 W	74 38	.1671	CS.6
Cadillac	44 14	85 20	1905.8	0 38.3 W	74 44.7	.1659	0 36 W	74 45	.1661	CS.6

† These observations were made by C. S. Woodard.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

MICHIGAN—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Au Sable	44 24	83 19	1901.5	1 24.0 W	-- ----	----	1 31 W	-- --	----	LS.3E
Do.	44 24	83 20	1905.6	1 33.7 W	75 13	.1573	1 32 W	75 13	.1573	LS.
Roscommon	44 30	84 34	1905.8	0 54.5 W	75 16.8	.1608	0 53 W	75. 17	.1610	CS.6
Frankfort	44 38	86 15	1904.8	1 21.3 E	-- ----	----	1 21 E	-- --	----	LS.3E
Sturgeon Point	44 42	83 16	1905.6	3 14.4 W	75 15	.1566	3 13 W	75 15	.1566	LS.
Do.	44 43	83 14	1858.7	1 02 E	75 59	.1540	2 14 W	75 20	.1558	LS.d1
Glen Haven	44 54	86 02	1897.7	1 13.5 W	75 50	----	1 32 W	75 49	----	LS.3E
South Manitou I.	45 02	86 06	1860.7	- ----	76 01	.1549	- --	75 25	.1569	LS.1
South Manitou I.	45 02	86 05	1897.7	0 25.0 E	75 32	----	0 07 E	75 30	----	LS.3E
Thunder Bay I.	45 02	83 12	1905.7	5 02.2 W	75 46	.1531	5 01 W	75 46	.1531	LS.
Thunder Bay	45 02	83 09	1858.6	1 14 W	76 24	.1494	4 30 W	75 45	.1518	CS.d1
Gaylord	45 03	84 40	1905.7	0 41.9 W	75 32.7	.1568	0 40 W	75 33	.1567	CS.6.
North Port	45 08	85 36	1860.7	- ----	76 06	.1540	- --	75 28	.1564	LS.d1
Do.	45 08	85 36	1897.7	0 40.5 W	75 45	----	0 58 W	75 42	----	LS.3E
Plum Island	45 18	86 56	1897.7	1 55.6 E	75 54	----	1 38 E	75 51	----	LS.3E
Charlevoix	45 19	85 15	1897.7	0 34.4 W	75 34	----	0 53 W	75 31	----	LS.3E
Presque Isle	45 22	83 30	1905.7	2 47.6 W	75 57	.1496	2 46 W	75 57	.1495	LS.
Petoskey	45 23	84 56	1897.8	0 04.1 W	75 55	----	0 23 W	75 52	----	LS.3E
Harbor Point	45 25	84 59	1902.7	0 01.0 W	75 43.1	.1549	0 06 W	75 43	.1551	CS.3
Hammond	45 30	84 02	1905.7	2 32.6 W	76 08	.1521	2 31 W	76 08	.1520	LS.
St. Martins I.	45 30	86 47	1897.7	0 39.0 E	75 43	----	0 21 E	75 40	----	LS.3E
Cheboygan	45 38	84 28	1897.8	0 53.0 W	76 23	----	1 11 W	76 20	----	LS.3E
Bois Blanc Island	45 44	84 28	1897.8	1 51.0 W	76 22	----	2 09 W	76 19	----	LS.3E
Beaver Island	45 44	85 34	1897.7	0 04.8 E	76 06	----	0 14 W	76 03	----	LS.3E
Do.	45 45	85 30	1860.8	2 43.0 E	76 43	.1492	0 30 W	76 08	.1516	LS.d1
Escanaba	45 45	87 03	1904.7	0 54.5 W	75 40	.1548	0 55 W	75 40	.1548	LS.3E
Waugoshance Pt.	45 46	85 00	1897.8	0 09.2 W	-- --	----	0 24 W	-- --	----	LS.3E
McGulpins Point	45 47	84 46	1896.8	0 54.8 W	-- --	----	1 17 W	-- --	----	LS.3E
Mackinac Sts., D †	45 47	84 38	1903.2	1 48.2 W	76 03.4	.1527	1 52 W	76 03	.1528	CS.3
Mackinac Sts., C †	45 47	84 41	1903.2	1 01.2 W	76 02.1	.1529	1 05 W	76 02	.1531	CS.3
Mackinac Sts., B †	45 49	84 38	1903.2	1 00.5 W	76 06.8	.1526	1 04 W	76 07	.1528	CS.3
Mackinac Sts., A †	45 49	84 44	1903.2	0 48.2 W	76 01.3	.1537	0 52 W	76 01	.1538	CS.3
Round Island	45 50	84 32	1902.7	1 43.9 W	76 05.3	.1518	1 49 W	76 05	.1519	CS.3
St. Ignace	45 51	84 42	1897.8	1 36.5 W	76 02	----	1 55 W	75 59	----	LS.3E
Mackinac I., brow	45 51	84 35	1902.7	1 46.4 W	-- ----	----	1 52 W	-- --	----	CS.3
Mackinac I., Ft., E.	45 52	84 37	1905.7	1 49.2 W	76 05.7	.1519	1 48 W	76 06	.1519	CS.3
Mackinac I., Ft., W.	45 52	84 37	1905.7	1 53.4 W	76 06.4	.1519	1 52 W	76 07	.1518	CS.3
Mackinac I., Pte. aux Pins	45 53	84 37	1902.7	1 56.8 W	76 07.8	.1521	2 02 W	76 07	.1522	CS.3
Mackinac I.	45 52	84 38	1905.7	2 02.2 W	76 07	.1497	2 01 W	76 07	.1496	LS.
St. Helena I.	45 52	84 52	1897.8	0 35.8 W	76 08	----	0 54 W	76 05	----	LS.3E
Goose I.	45 56	84 26	1896.7	1 07.9 W	-- --	----	1 30 W	-- --	----	LS.3E
Detour	45 57	83 55	1905.7	4 12.3 W	76 29	.1438	4 11 W	76 29	----	LS.
Manistique	45 58	86 13	1897.8	0 15.2 E	75 56	----	0 03 W	75 53	----	LS.3E
Drummond I.	45 59	83 53	1897.7	3 48.3 W	76 20	----	4 07 W	76 17	----	LS.3E
Detour	46 00	83 55	1897.7	3 50.8 W	76 29	----	4 10 W	76 26	----	LS.3E
Robinson	46 04	84 25	1896.7	1 31.0 W	-- --	----	1 54 W	-- --	----	LS.3E
Lime Island, n. end	46 06	84 00	1897.6	3 50.9 W	76 20	----	4 10 W	76 17	----	LS.3E
Naubinway	46 07	85 33	1897.8	0 03.4 W	76 17	----	0 22 W	76 14	----	LS.3E
Maple Hill	46 09	84 47	1896.6	0 54.3 W	-- --	----	1 17 W	-- --	----	LS.3E
Neebish Island	46 20	84 11	1897.6	3 29.1 W	76 54	----	3 48 W	76 51	----	LS.3E
Newberry	46 20	85 31	1905.7	0 37.3 W	76 20.7	.1488	0 36 W	76 21	.1487	CS.6
Head St. Marys River Range	46 26	84 31	1906.8	2 11.4 W	76 32	.1454	2 08 W	76 32	.1453	LS.
Round Island	46 27	84 31	1896.6	2 04.9 W	-- --	----	2 28 W	-- --	----	LS.3E
Salt Point	46 28	84 52	1896.5	2 08.5 W	-- --	----	2 32 W	-- --	----	LS.3E
Bessemer	46 28	90 04	1905.6	3 21.1 E	75 32.3	.1616	3 21 E	75 32	.1616	CS.6
Point Iroquois	46 29	84 38	1896.5	1 34.1 W	-- ----	----	1 57 W	-- --	----	LS.3E
Sault Ste. Marie, old Ft. Brady	46 30	84 20	1902.8	2 30.9 W	76 58.4	.1426	2 36 W	76 58	.1428	CS.3
Sault Ste. Marie, new Ft. Brady	46 30	84 24	1902.8	2 20.7 W	76 55.0	.1429	2 26 W	76 54	.1431	CS.3
Do.	46 30	84 24	1906.8	2 31.0 W	76 53.9	.1431	2 27 W	76 54	.1429	CI.
Marquette	46 33	87 22	1902.8	2 13.0 E	75 22.2	.1600	2 08 E	75 22	.1602	CS.3
Marquette, A	46 33	87 23	1904.6	1 36.5 E	76 10	.1481	1 36 E	76 10	.1481	LS.3E
Grand Marais	46 41	85 58	1904.6	0 36.1 W	76 39	.1438	0 37 W	76 39	.1438	LS.3E
Near Crisp, ◬	46 44	85 15	1895.5	0 22.7 W	-- --	----	0 49 W	-- --	----	LS.3E

† These observations were made on the ice.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

MICHIGAN—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Whitefish Point	46 46	84 57	1895.8	1 49.5 W	-- --	----	2 15 W	-- --	----	LS.3E
Do.	46 46	84 57	1906.6	2 09.7 W	76 52	.1474	2 06 W	76 52	.1473	LS.
Ontonagon	46 52	89 20	1880.6	4 41.5 E	77 16.6	.1427	3 12 E	76 57	.1432	CS.d1
Do.	46 52	89 20	1904.7	3 02.3 E	77 00	.1425	3 02 E	77 00	.1425	LS.3E
Portage Entry	46 58	88 25	1904.6	1 41.4 E	76 33	.1443	1 41 E	76 33	.1443	LS.3E
Houghton	47 07	88 34	1902.8	1 01.0 E	76 40.1	.1464	0 56 E	76 40	.1464	CS.3
Portage Canal	47 14	88 38	1904.6	3 32.0 E	77 07	.1397	3 31 E	77 07	.1397	LS.3E
Tamarack Mine (a) †	47 16	88 28	1904.7	- ----	77 17	.1389	- --	77 17	.1389	LS.3E
Tamarack Mine (b) †	47 16	88 28	1904.7	5 22.0 E	77 44	.1307	5 22 E	77 44	.1307	LS.3E
Copper Harbor	47 28	87 51	1873.6	4 03.3 E	78 02	.1350	1 58 E	77 35	.1360	LS.d1
Do.	47 28	87 52	1904.7	1 31.8 E	77 34	.1339	1 31 E	77 34	.1339	LS.3E
Isle Royal	47 52	89 14	1904.6	6 09.6 E	78 38	.1263	6 09 E	78 38	.1263	LS.3E
Rock of Ages	47 52	89 18	1906.8	11 12.0 E	79 04	.1239	11 15 E	79 04	.1238	LS
Menagerie I.	47 57	88 45	1906.8	0 57.4 E	77 16	.1407	1 01 E	77 16	.1405	LS.
Rock Harbor (2)	48 05	88 34	1906.8	2 53.4 E	-- --	.1328	2 57 E	-- --	.1326	LS.
Rock Harbor (1)	48 06	88 34	1906.8	1 27.9 E	77 47	.1355	1 31 E	77 47	.1353	LS.
Scoville Pt.	48 10	88 27	1906.8	5 17.9 E	78 33	.1289	5 21 E	78 33	.1287	LS.
Passage I.	48 14	88 21	1906.7	4 05.8 E	78 22	.1299	4 09 E	78 22	.1297	LS.
Gull Island.	48 16	88 16	1906.7	2 23.6 E	78 11	.1306	2 27 E	78 11	.1304	LS.

MINNESOTA

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Heron Lake	43 49	95 18	1900.8	8 58.2 E	73 15.6	.1802	9 03 E	73 19	.1797	CS.d2
Mantorville	44 05	92 46	1900.8	6 23.1 E	73 36.5	.1750	6 22 E	73 38	.1744	CS.d2
Mankato	44 11	93 59	1900.8	8 59.5 E	73 31.0	.1775	9 02 E	73 34	.1769	CS.d2
Watopa	44 14	92 02	1893.6	7 14.1 E	-- ----	----	6 56 E	-- --	----	CS.d
Lake Benton	44 17	96 18	1900.8	9 15.9 E	73 39.6	.1737	9 20 E	73 43	.1732	CS.d2
Wabasha	44 18	92 02	1876.6	8 04.3 E	74 21.6	.1717	6 22 E	74 12	.1697	LS.d1
Lake City	44 23	92 08	1893.7	7 02.2 E	-- ----	----	6 40 E	-- --	----	CS.d
Red Wing	44 34	92 32	1878.8	7 49.6 E	74 14.4	.1696	6 20 E	74 05	.1676	LS.d1
Buck Hill	44 43	93 17	1893.5	8 17.2 E	-- ----	----	7 56 E	-- --	----	CS.d
Marcotta	44 49	93 03	1893.5	8 33.7 E	-- ----	----	8 12 E	-- --	----	CS.d
Granite Falls	44 50	95 33	1900.8	8 56.2 E	73 37.8	.1769	8 59 E	73 40	.1765	CS.d2
Wallace	44 54	93 05	1893.5	10 11.0 E	-- ----	----	9 48 E	-- --	----	CS.d
Fort Snelling	44 54	93 11	1880.7	10 13.7 E	74 55.6	.1669	8 53 E	74 43	.1664	CS.d1
Woodbury	44 55	92 57	1893.5	8 30.4 E	-- ----	----	8 07 E	-- --	----	CS.d
Hopkins	44 55	93 27	1893.5	8 12.3 E	-- ----	----	7 52 E	-- --	----	CS.d
Ramsey	44 59	93 00	1893.5	10 00.1 E	-- ----	----	9 42 E	-- --	----	CS.d
Minneapolis, Univ. grounds.	44 59	93 14	1891.6	9 04.9 E	74 29.5	.1682	8 41 E	74 28	.1677	CS.d1
St. Paul	45 00	93 10	1900.8	8 41.4 E	74 39.7	.1673	8 42 E	74 42	.1669	CS.d2
Mound View	45 06	93 10	1893.5	9 07.5 E	-- ----	----	8 51 E	-- --	----	CS.d
Benson	45 20	95 36	1900.7	9 23.3 E	74 26.3	.1710	9 25 E	74 29	.1706	CS.d2
St. Cloud	45 35	94 11	1900.8	9 08.4 E	75 01.9	.1644	9 10 E	75 04	.1640	CS.d2
Royalton, S. Base	45 44	94 12	1905.7	8 44.4 E	75 06.6	.1609	8 44 E	75 06	.1610	CS.6
Osakis	45 50	95 08	1906.5	9 53.3 E	75 27.9	.1603	9 51 E	75 27	.1604	CS.6
Alexandria	45 55	95 24	1900.8	10 37.7 E	75 18.8	.1605	10 40 E	75 21	.1601	CS.d2
Dalton	46 10	95 55	1906.5	10 13.6 E	75 03.1	.1629	10 11 E	75 02	.1630	CS.7
Breckenridge	46 17	96 35	1900.7	12 01.7 E	75 21.1	.1576	12 03 E	75 23	.1572	CS.d2
Brainerd	46 21	94 12	1905.7	7 51.8 E	75 24.8	.1585	7 51 E	75 24	.1586	CS.6
Wadena	46 28	95 09	1900.7	9 25.7 E	75 17.6	.1594	9 28 E	75 20	.1590	CS.d2
Douglas	46 37	93 09	1905.7	7 34.3 E	76 06.8	.1520	7 34 E	76 06	.1521	CS.6
Duluth, Minnesota Pt.	46 44	92 04	1902.8	8 40.0 E	76 08.4	.1524	8 41 E	76 09	.1522	CS.3
Do.	46 45	92 03	1902.0	11 54 E	-- ----	----	11 56 E	-- --	----	UE.3E
Do.	46 45	92 05	1901.1	8 15 E	-- ----	----	8 17 E	-- --	----	UE.3E
Duluth, old sta.	46 47	92 05	1902.8	12 25.3 E	76 27.4	.1471	12 26 E	76 28	.1469	CS.3
Duluth Ship Canal	46 47	92 06	1904.2	8 59 E	-- ----	----	9 00 E	-- --	----	UE.3E
Duluth, Met. Obsy.	46 47	92 07	1902.8	12 17.4 E	74 59.7	.1649	12 18 E	75 01	.1647	CS.3
Detroit City	46 50	95 52	1900.7	10 20.2 E	75 26.0	.1572	10 23 E	75 28	.1569	CS.d2
Glyndon	46 52	96 35	1906.5	10 29.3 E	75 43.3	.1570	10 27 E	75 43	.1572	CS.7
Two Harbors	47 02	91 39	1902.0	6 12 E	-- ----	----	6 13 E	-- --	----	UE.3E
Do.	47 03	91 38	1905.8	4 15.5 E	76 53.3	.1448	4 15 E	76 53	.1448	CS.6
Devils I.	47 05	90 44	1902.0	5 54 E	-- ----	----	5 56 E	-- --	----	UEE.3

† Station (a) was 4,760 feet underground, whereas station (b) was on the surface of the copper mine.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

MINNESOTA—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Walker	47 07	94 36	1900.7	9 50.7 E	76 10.1	.1506	9 53 E	76 12	.1502	CS.d2
Split Rock*	47 11	91 23	1902.0	4 26 E	-- ----	----	4 27 E	-- --	----	UE.3E
Lake Superior	47 15	90 54	1902.5	5 00 E	-- ----	----	5 01 E	-- --	----	UE.3E
Deer River	47 22	93 44	1905.8	8 38.1 E	76 31.4	.1481	8 38 E	76 31	.1482	CS.6
Lake Superior	47 30	90 54	1902.5	5 46 E	-- ----	----	5 47 E	-- --	----	UE.3E
Fosston	47 35	95 44	1905.8	8 52.4 E	76 21.4	.1513	8 52 E	76 21	.1514	CS.6
Tilden	47 42	96 20	1905.8	11 12.3 E	76 35.9	.1478	11 11 E	76 36	.1479	CS.6
Grand Marais*	47 45	90 21	1887.4	13 12 E	-- ----	----	12 28 E	-- --	----	UE.3E
Crookston	47 49	96 37	1900.7	10 52.2 E	76 14.3	.1498	10 58 E	76 16	.1495	CS.d2
Tower	47 50	92 12	1905.8	18 28.4 E	73 04.7	.1969	18 28 E	73 04	.1969	CS.6
Northome	47 53	94 17	1905.8	7 58.9 E	76 58.9	.1427	7 58 E	76 59	.1427	CS.6
Stephen, W. Base	48 27	96 51	1905.8	11 44.1 E	76 53.9	.1444	11 43 E	76 54	.1444	CS.6

MISSISSIPPI

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Ship Island	30 13	88 58	1903.0	4 54.0 E	60 29.7	.2729	4 56 E	60 37	.2719	CS.3
Shieldsboro	30 18	89 19	1896.1	5 12.1 E	60 21.9	.2766	5 12 E	60 43	.2732	CS.d1
East Pascagoula	30 21	88 33	1855.1	7 08.9 E	-- ----	.2882	4 35 E	-- --	.2772	CS.d1
Do.	30 21	88 33	1848.4	- ----	60 27.2	----	- --	60 20	----	CS.d
Pascagoula	30 21	88 33	1875.4	6 19.5 E	-- ----	----	5 12 E	-- --	----	NA.d
Mississippi City	30 23	89 03	1903.0	4 54.4 E	60 43.9	.2717	4 58 E	60 50	.2707	CS.3
Poplarville	30 50	89 30	1896.1	5 20.9 E	60 48.2	.2742	5 22 E	61 08	.2708	CS.d1
Woodville	31 07	91 18	1905.1	6 07.8 E	61 19.0	.2682	6 07 E	61 19	.2682	CS.5
Magnolia	31 10	90 29	1905.1	5 43.4 E	61 25.4	.2678	5 43 E	61 25	.2678	CS.5
Liberty	31 10	90 50	1905.1	5 54.4 E	61 22.3	.2679	5 54 E	61 22	.2679	CS.5
Meadville	31 29	90 54	1905.1	5 59.7 E	61 44.4	.2667	6 00 E	61 44	.2667	CS.5
Natchez	31 34	91 24	1890.3	6 29.8 E	61 06.0	.2711	6 16 E	61 27	.2669	CS.d1
Brookhaven	31 35	90 27	1905.1	5 40.8 E	61 56.8	.2645	5 41 E	61 57	.2645	CS.5
Ellisville	31 37	89 12	1901.3	4 54.4 E	62 01.9	.2653	4 58 E	62 13	.2637	CS.d2
Waynesboro	31 40	88 38	1905.2	4 48.6 E	62 11.0	.2636	4 48 E	62 11	.2636	CS.5
Fayette	31 43	91 04	1905.1	6 11.4 E	62 04.3	.2640	6 11 E	62 04	.2640	CS.5
Hazlehurst	31 53	90 23	1905.1	5 40.4 E	62 18.8	.2622	5 40 E	62 19	.2622	CS.5
Jackson	32 20	90 11	1901.2	5 57.0 E	63 10.1	.2580	6 02 E	63 20	.2565	CS.d2
Vicksburg	32 21	90 53	1890.4	6 21.0 E	62 01.7	.2650	6 06 E	62 23	.2612	CS.d1
Forest	32 22	89 28	1901.3	5 25.6 E	62 44.8	.2614	5 30 E	62 53	.2599	CS.d2
Meridian	32 23	88 44	1901.3	4 44.6 E	62 47.0	.2617	4 48 E	62 58	.2602	CS.d2
Canton	32 36	90 01	1905.1	5 34.4 E	62 56.7	.2582	5 34 E	62 56	.2582	CS.5
Yazoo City	32 51	90 21	1901.2	5 27.6 E	62 58.5	.2605	5 33 E	63 09	.2590	CS.d2
Rolling Fork	32 54	90 53	1905.0	6 06.2 E	63 16.1	.2573	6 06 E	63 16	.2573	CS.5
Kosciusko	33 04	89 35	1905.1	5 21.6 E	63 37.1	.2553	5 21 E	63 37	.2553	CS.5
Macon	33 07	88 33	1905.2	4 39.9 E	64 02.3	.2523	4 40 E	64 02	.2524	CS.5
Ackerman	33 19	89 10	1905.2	5 15.8 E	64 00.1	.2522	5 16 E	64 00	.2523	CS.5
Greenville	33 24	91 05	1905.0	6 01.0 E	63 39.1	.2544	6 01 E	63 39	.2544	CS.5
Indianola	33 26	90 40	1905.0	6 01.5 E	63 42.9	.2544	6 02 E	63 43	.2544	CS.5
Winona	33 30	89 43	1901.2	5 08.7 E	63 47.9	.2552	5 12 E	63 56	.2537	CS.d2
Greenwood	33 31	90 13	1903.1	5 41.8 E	63 49.1	.2560	5 46 E	63 53	.2552	CS.3
West Point	33 36	88 39	1901.2	4 42.3 E	64 05.5	.2530	4 46 E	64 14	.2515	CS.d2
Grenada	33 47	89 50	1872.2	6 25.1 E	64 24.0	.2541	4 55 E	64 23	.2493	CS.d1
Rosedale	33 51	91 02	1905.0	5 56.4 E	64 11.5	.2526	5 56 E	64 12	.2526	CS.5
Charleston	34 02	90 05	1903.1	5 22.5 E	64 24.3	.2511	5 27 E	64 29	.2503	CS.3
Clarksdale	34 12	90 34	1905.0	6 08.2 E	64 48.7	.2476	6 08 E	64 49	.2476	CS.5
Tupelo	34 16	88 43	1901.2	4 27.4 E	64 35.7	.2501	4 26 E	64 43	.2486	CS.d2
Oxford	34 22	89 32	1901.2	5 31.8 E	65 00.1	.2488	5 34 E	65 09	.2473	CS.d2
Sardis	34 29	89 57	1903.0	5 31.9 E	65 00.9	.2451	5 36 E	65 05	.2443	CS.3
Tunica	34 42	90 24	1905.0	5 11.4 E	65 13.6	.2445	5 11 E	65 14	.2445	CS.5
Holly Springs	34 47	89 26	1901.2	5 30.6 E	65 30.4	.2444	5 32 E	65 39	.2429	CS.d2
Hernando	34 50	90 00	1903.0	5 07.4 E	65 20.3	.2440	5 11 E	65 24	.2432	CS.3
Corinth	34 55	88 31	1905.9	5 41.1 E	65 57.2	.2375	5 41 E	65 55	.2379	CS.6

* Mean of 3 stations; local disturbance.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

MISSOURI

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Gatewood	36 32	91 03	1880.5	7 11.8 E	-- ----	.2310	6 18 E	-- --	.2271	NI.d1
Doniphan	36 38	90 47	1880.5	7 04.6 E	-- ----	.2305	6 10 E	-- --	.2272	NI.d1
Cassville	36 42	93 51	1905.8	7 12.1 E	67 06.8	.2311	7 10 E	67 05	.2313	CS.6
West Plains	36 44	91 50	1905.8	6 18.3 E	67 04.0	.2322	6 17 E	67 03	.2325	CS.6
Poplar Bluff	36 44	90 22	1880.5	6 44.7 E	67 14.0	.2312	5 50 E	67 17	.2276	NI.d1
Poplar Bluff	36 45	90 22	1875.4	7 12.5 E	-- ----	----	5 57 E	-- --	----	NA.d
Charleston	36 56	89 19	1880.5	5 43.2 E	67 47.0	.2276	4 39 E	67 50	.2246	NI.d1
Howell County	36 56	91 55	1880.6	7 31.3 E	67 37.1	.2272	6 34 E	67 40	.2241	NI.d1
Greenville	37 07	90 26	1905.4	5 44.8 E	67 17.5	.2304	5 44 E	67 17	.2305	CS.5
Mount Vernon	37 07	93 49	1905.4	7 10.0 E	67 32.3	.2280	7 09 E	67 32	.2281	CS.5
Piedmont	37 08	90 41	1880.5	7 22.8 E	67 35.4	.2302	6 24 E	67 38	.2274	NI.d1
Springfield	37 16	93 15	1879.7	8 35.8 E	67 12.6	.2353	7 42 E	67 15	.2320	NI.d1
Cape Girardeau	37 18	89 33	1865.2	6 35 E	-- ----	----	4 40 E	-- --	----	CS.d
Lutesville	37 20	89 59	1880.5	6 13.9 E	67 51.7	.2281	5 19 E	67 55	.2253	NI.d1
Houston	37 19	91 55	1880.6	7 34.9 E	67 16.4	.2314	6 30 E	67 19	.2281	NI.d1
Do.	37 20	91 58	1905.4	6 23.8 E	67 15.2	.2298	6 23 E	67 15	.2300	CS.5
Marshfield	37 21	92 50	1903.6	6 54.0 E	-- ----	.2302	6 57 E	-- --	.2298	CS.4
Lamar	37 30	94 16	1905.6	8 19.5 E	68 20.6	.2219	8 18 E	68 20	.2221	CS.6
Bolivar	37 35	93 24	1881.6	8 14.6 E	67 49.2	.2295	7 30 E	67 54	.2263	NI.d1
Ironton	37 36	90 38	1890.9	2 12.5 E	-- ----	----	1 48 E	-- --	----	CS.d
Arcadia	37 36	90 41	1880.5	6 48.7 E	68 33.9	.2249	5 49 E	68 37	.2221	NI.d1
Pilot Knob, base*	37 37	90 37	1880.5	11 08.4 E	69 59.2	.2112	10 09 E	70 02	.2084	NI.d1
Pilot Knob, top*	37 37	90 37	1880.6	3 45.4 E	-- ----	.2120	2 46 E	-- --	.2092	NI.d1
Buffalo	37 37	93 06	1881.6	8 07.0 E	67 57.0	.2278	7 18 E	68 02	.2247	NI.d1
Bolivar	37 38	93 23	1903.6	7 16.7 E	67 48.4	.2258	7 20 E	67 51	.2253	CS.4
Wittenberg	37 39	89 33	1865.3	6 47 E	-- ----	----	4 52 E	-- --	----	CS.d
Salem	37 39	91 31	1880.6	6 56.3 E	68 01.8	.2278	6 00 E	68 03	.2249	NI.d1
Lebanon	37 40	92 42	1880.6	7 46.0 E	67 58.6	.2288	6 51 E	68 00	.2259	NI.d1
Waynesville	37 50	92 13	1905.6	6 38.8 E	68 11.7	.2236	6 37 E	68 11	.2237	CS.6
Decaturville	37 54	92 43	1881.6	8 56.6 E	-- ----	----	8 06 E	-- --	----	NI.d1
Potosi	37 56	90 47	1890.9	6 06 E	-- ----	----	5 50 E	-- --	----	CS.d
Wheatland	37 56	93 24	1881.6	8 39.5 E	68 16.6	.2234	7 52 E	68 20	.2208	NI.d1
Steelville	37 58	91 22	1905.6	6 08.8 E	68 07.4	.2244	6 08 E	68 07	.2245	CS.6
Schell City	38 03	94 05	1879.7	9 02.7 E	68 20.2	.2253	8 07 E	68 21	.2227	NI.d1
Cuba	38 04	91 21	1880.6	7 24.8 E	68 18.8	.2248	6 30 E	68 22	.2222	NI.d1
Linn Creek	38 04	92 47	1881.6	9 00.3 E	68 14.5	.2256	8 06 E	68 18	.2230	NI.d1
Osceola	38 04	93 41	1903.6	7 40.2 E	68 02.8	.2230	7 44 E	68 05	.2227	CS.4
De Soto	38 07	90 35	1880.6	7 46.9 E	68 45.4	.2203	6 48 E	68 47	.2181	NI.d1
Lawson farm	38 11	92 11	1881.6	6 53.9 E	68 20.6	.2266	6 00 E	68 24	.2240	NI.d1
Vienna	38 12	91 54	1881.5	7 14.9 E	68 39.6	.2205	6 20 E	68 43	.2179	NI.d1
Tuscumbia	38 12	92 30	1881.6	8 30.4 E	68 08.5	.2253	7 36 E	68 12	.2227	NI.d1
Warsaw	38 14	93 23	1881.6	8 51.2 E	-- ----	----	8 02 E	-- --	----	NI.d
Dry Fork	38 17	91 35	1881.5	7 04.7 E	-- ----	----	6 10 E	-- --	----	NI.d
Soap Creek	38 17	92 50	1881.6	8 20.7 E	-- ----	----	7 27 E	-- --	----	NI.d
Canaan	38 19	91 32	1881.5	7 16.6 E	68 47.3	.2208	6 22 E	68 50	.2182	NI.d1
Clinton	38 22	93 46	1903.6	7 25.4 E	68 10.0	.2230	7 30 E	68 12	.2227	CS.4
Lincoln	38 23	93 21	1881.6	9 18.6 E	68 22.6	.2241	8 30 E	68 26	.2215	NI.d1
Roedersville	38 24	91 10	1881.5	6 55.7 E	69 00.5	.2207	6 02 E	69 04	.2181	NI.d1
Wulfert farm	38 24	91 16	1881.5	7 04.1 E	-- ----	.2206	6 10 E	-- --	.2180	NI.d1
Union	38 25	90 59	1881.5	6 35.7 E	68 56.2	.2192	5 42 E	68 59	.2169	NI.d1
Versailles	38 25	92 53	1881.6	8 19.8 E	68 45.2	.2206	7 26 E	68 48	.2180	NI.d1
Pacific	38 28	90 44	1881.5	6 54.1 E	-- ----	----	5 59 E	-- --	----	NI.d
Do.	38 28	90 44	1880.6	7 02.1 E	69 02.3	.2172	6 03 E	69 04	.2150	NI.d1
F. Kaldeweihers	38 28	91 41	1882.5	7 44.3 E	-- ----	----	6 55 E	-- --	----	NI.d
Linn	38 28	91 50	1882.5	7 36.9 E	-- ----	----	6 47 E	-- --	----	NI.d
Versailles, N. base	38 30	92 48	1897.4	6 35 E	-- ----	----	6 38 E	-- --	----	CS.d
Washington	38 31	90 59	1879.6	6 24.7 E	69 07.6	.2179	5 22 E	69 08	.2157	NI.d1
Do.	38 31	90 59	1881.5	6 19.1 E	-- ----	----	5 25 E	-- --	----	NI.d
Windsor	38 32	93 33	1881.6	8 43.5 E	68 26.2	.2218	7 55 E	68 29	.2191	NI.d1
Goebels Station	38 34	91 06	1882.5	7 37.9 E	-- ----	----	6 48 E	-- --	----	NI.d
Jefferson City	38 35	92 09	1879.6	8 38.8 E	68 55.7	.2183	7 36 E	68 56	.2156	NI.d1
Do.	38 35	92 09	1881.6	8 27.2 E	-- ----	----	7 33 E	-- --	----	NI.d
Kirkwood	38 36	90 24	1882.5	6 24.5 E	-- ----	----	5 31 E	-- --	----	NI.d
Newport	38 36	91 06	1882.5	6 59.0 E	-- ----	----	6 10 E	-- --	----	NI.d
Fred Bruhn's	38 37	91 29	1882.5	6 52.4 E	-- ----	----	6 03 E	-- --	----	NI.d
St. Louis	38 38	90 16	1900.9	5 04.4 E	69 24.4	.2128	5 05 E	69 30	.2119	CS.d2
Ten-mile House	38 38	90 23	1881.5	6 47.5 E	-- ----	----	5 51 E	-- --	----	NI.d

* Local disturbance.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

MISSOURI—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Centertown	38 38	92 25	1881.6	7 37.9 E	-- ----	----	6 44 E	-- --	----	NI.d
California	38 39	92 34	1881.6	7 44.0 E	68 46.7	.2182	6 50 E	68 50	.2156	NI.d1
Harrisonville	38 39	94 18	1900.9	7 42.6 E	68 33.9	.2214	7 51 E	68 40	.2205	CS.d2
Near Clayton	38 41	90 19	1881.5	6 03.7 E	-- ----	.2117	5 06 E	-- --	.2094	NA.d1
St. Charles, rock road	38 41	90 21	1882.6	6 08.3 E	-- ----	----	5 16 E	-- --	----	NI.d
Ruck's place	38 41	91 20	1882.5	7 51.1 E	-- ----	----	7 01 E	-- --	----	NI.d
Zimmerman's place	38 41	93 34	1881.6	9 15.2 E	68 13.2	.2272	8 26 E	68 16	.2246	NI.d1
Pattonsville	38 42	90 29	1881.7	5 53.9 E	69 39.6	.2122	4 58 E	69 43	.2100	NI.d1
Marion	38 42	92 25	1881.7	7 39.3 E	68 48.1	.2185	6 46 E	68 51	.2159	NI.d1
Hermann	38 42	91 26	1906.4	6 30.4 E	69 19.6	.2130	6 28 E	69 18	.2132	CS.6.
Sedalia	38 42	93 15	1879.6	8 45.5 E	68 49.7	.2214	7 48 E	68 52	.2188	NI.d1
Do.	38 43	93 14	1900.9	7 35.3 E	68 43.9	.2207	7 43 E	68 50	.2197	CS.d2
Dardenne	38 43	90 42	1881.7	6 32.6 E	69 02.7	.2189	5 37 E	69 06	.2167	NI.d1
Healds	38 43	90 40	1882.6	6 46.4 E	-- ----	----	5 54 E	-- --	----	NI.d
Little Auxvasse Cr.	38 43	92 01	1882.5	7 55.4 E	-- ----	----	7 06 E	-- --	----	NI.d
Holden	38 43	94 03	1879.6	8 56.0 E	68 29.3	.2230	7 58 E	68 30	.2204	NI.d1
Opposite St. Charles	38 44	90 31	1881.7	7 19.4 E	70 08.0	.2076	6 23 E	70 08	.2050	NI.d1
St. Charles	38 45	90 30	1878.5	- ----	69 29.9	.2069	- --	69 28	.2047	NI.d1
Warrenton	38 46	91 08	1881.7	6 44.3 E	69 10.4	.2161	5 51 E	69 13	.2139	NI.d1
Do.	38 46	91 09	1882.6	6 33.8 E	-- ----	----	5 55 E	-- --	----	NI.d
Normal	38 46	93 44	1906.5	7 40.1 E	68 18.7	.2240	7 38 E	68 17	.2242	CS.6
Florissant	38 47	90 17	1881.7	6 35.0 E	-- ----	.2120	5 38 E	-- --	.2098	NI.d
O'Fallon	38 47	90 43	1880.8	6 45.4 E	-- ----	.2149	5 45 E	-- --	.2127	NI.d
Wright City	38 47	91 00	1878.5	8 13.6 E	69 11.2	.2124	7 06 E	69 11	.2102	NI.d1
Prairie Home	38 48	92 39	1881.6	7 37.7 E	-- ----	----	6 44 E	-- --	----	NI.d
Providence	38 49	92 28	1881.7	7 38.8 E	69 00.3	.2179	6 46 E	69 03	.2153	NI.d1
Danville	38 51	91 32	1881.7	7 47.7 E	-- ----	----	6 55 E	-- --	----	NI.d
Clarks Fork	38 51	92 40	1881.6	7 28.9 E	69 15.9	.2173	6 36 E	69 19	.2147	NI.d1
Swope's	38 52	93 35	1881.6	8 37.2 E	-- ----	----	7 48 E	-- --	----	NI.d
Danville	38 55	91 32	1881.7	7 47.7 E	-- ----	----	6 55 E	-- --	----	NI.d
Sweet Springs	38 55	93 29	1881.6	9 24.0 E	68 57.4	.2187	8 35 E	69 00	.2161	NI.d1
Columbia	38 56	92 18	1881.7	7 24.1 E	-- ----	----	6 31 E	-- --	----	NI.d
Do.	38 56	92 20	1878.5	7 43.6 E	69 19.1	.2149	6 36 E	69 19	.2123	NI.d1
Loomis's farm	38 57	91 47	1881.7	7 46.4 E	-- ----	----	6 54 E	-- --	----	NI.d
McCredie	38 58	91 55	1881.7	7 50.6 E	69 05.0	.2170	6 58 E	69 08	.2144	NI.d1
Stephen's store	38 58	92 05	1882.5	7 36.7 E	-- ----	----	6 47 E	-- --	----	NI.d
Montgomery	39 00	91 30	1882.6	7 07.1 E	-- ----	----	6 18 E	-- --	----	NI.d
Herndon	39 00	93 21	1881.6	8 55.2 E	-- ----	.2178	8 06 E	-- --	.2152	NI.d
Clark's farm	39 02	92 55	1881.6	7 54.1 E	-- ----	----	7 00 E	-- --	----	NI.d
Arrow Rock	39 06	93 00	1881.6	7 54.0 E	-- ----	.2141	7 01 E	-- --	.2115	NI.d1
Kansas City	39 06	94 33	1900.8	8 58.2 E	69 07.1	.2184	9 06 E	69 13	.2174	CS.d2
Do.	39 07	94 38	1879.6	10 07.6 E	68 58.6	.2200	9 10 E	69 00	.2173	NI.d1
Marshall	39 08	93 17	1881.6	8 32.4 E	69 34.0	.2144	7 42 E	69 37	.2118	NI.d1
Mexico	39 10	91 52	1903.6	6 32.5 E	69 27.0	.2144	6 35 E	69 29	.2140	CS.4
Do.	39 11	91 52	1878.5	7 38.6 E	69 27.6	.2175	6 33 E	69 28	.2149	NI.d1
Fayette	39 10	92 41	1903.6	7 22.9 E	69 52.1	.2106	7 26 E	69 54	.2102	CS.4
Lexington	39 12	93 52	1903.5	7 37.0 E	69 16.2	.2150	7 40 E	69 18	.2147	CS.4
Do.	39 12	93 53	1879.6	8 55.4 E	69 13.7	.2168	7 52 E	69 14	.2146	NI.d1
Centralia	39 13	92 08	1882.5	7 57.1 E	-- ----	----	7 08 E	-- --	----	NI.d
Glasgow	39 13	92 50	1879.6	8 21.3 E	69 57.4	.2105	7 19 E	69 58	.2079	NI.d1
Bowling Green	39 21	91 11	1903.6	5 50.0 E	69 45.4	.2100	5 50 E	69 47	.2097	CS.4
Carrollton	39 21	93 30	1879.6	8 30.0 E	69 29.0	.2153	7 28 E	69 30	.2127	NI.d1
Long Brch. of Salt R.	39 22	91 59	1882.6	7 59.8 E	-- ----	----	7 10 E	-- --	----	NI.d
Do.	39 24	92 10	1882.5	8 06.5 E	-- ----	----	7 17 E	-- --	----	NI.d
Moberly	39 26	92 26	1882.5	7 39.6 E	-- ----	----	6 50 E	-- --	----	NI.d
Louisiana	39 28	91 07	1878.6	7 07.2 E	69 50.2	.2105	6 00 E	69 48	.2083	NI.d1
Winkler's	39 35	92 00	1882.6	7 44.5 E	-- ----	----	6 56 E	-- --	----	NI.d
Plattsburg	39 35	94 26	1903.5	8 41.1 E	69 30.1	.2125	8 46 E	69 32	.2122	CS.4
Wolford's	39 38	93 45	1882.6	8 40.0 E	-- ----	----	7 52 E	-- --	----	NI.d
Smith's	39 39	94 11	1882.6	9 36.5 E	-- ----	----	8 49 E	-- --	----	NI.d
Kingston	39 41	94 04	1882.6	9 13.3 E	-- ----	----	8 26 E	-- --	----	NI.d
Hannibal	39 44	91 24	1878.6	7 08.3 E	70 14.3	.2082	6 00 E	70 14	.2056	NI.d1
Shelbyville	39 44	92 04	1882.6	7 47.0 E	-- ----	----	6 56 E	-- --	----	NI.d
Macon	39 45	92 27	1900.8	6 59.0 E	70 01.9	.2078	7 04 E	70 06	.2068	CS.d2
Do.	39 46	92 30	1878.6	8 06.9 E	70 07.6	.2080	6 57 E	70 08	.2054	NI.d1
St. Joseph	39 46	94 49	1879.6	8 53.3 E	69 43.3	.2143	7 54 E	69 44	.2113	NI.d1
Laclede	39 47	93 17	1882.5	8 10.7 E	-- ----	----	7 22 E	-- --	----	NI.d1
Chill cothe	39 48	93 33	1903.5	7 11.4 E	70 14.1	.2071	7 15 E	70 16	.2066	CS.4

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

MISSOURI—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Palmyra	39 48	91 32	1900.8	6 21.9 E	70 08.4	.2072	6 24 E	70 13	.2062	CS.d2
Isaac Lewis's	39 48	92 37	1882.5	7 58.7 E	-- ----	----	7 08 E	-- --	----	NI.d
Maysville	39 48	94 24	1882.6	9 18.3 E	-- ----	----	8 31 E	-- --	----	NI.d
Linneus	39 51	93 13	1882.5	7 55.9 E	-- ----	----	7 06 E	-- --	----	NI.d
Harris	39 53	92 22	1882.6	7 36.9 E	-- ----	----	6 46 E	-- --	----	NI.d
Yellow Ck., W. brnch.	39 54	93 07	1882.5	8 16.1 E	-- ----	----	7 24 E	-- --	----	NI.d
Gallatin	39 55	93 59	1903.5	7 54.2 E	69 53.3	.2113	7 58 E	69 55	.2109	CS.4
Mercyville	39 57	92 42	1882.5	8 17.0 E	-- ----	----	7 24 E	-- --	----	NI.d
La Plata	40 00	92 29	1882.6	8 09.2 E	-- ----	----	7 17 E	-- --	----	NI.d
Johnson's	40 01	94 23	1882.6	9 33.2 E	-- ----	----	8 46 E	-- --	----	NI.d
Trenton	40 03	93 39	1882.6	8 03.9 E	-- ----	----	7 13 E	-- --	----	NI.d
Michael's	40 04	93 53	1882.6	8 46.3 E	-- ----	----	7 56 E	-- --	----	NI.d
Honan's	40 08	93 56	1882.6	8 48.0 E	-- ----	----	7 58 E	-- --	----	NI.d
Canton	40 09	91 31	1878.6	7 19.5 E	70 27.8	.2044	6 08 E	70 25	.2023	NI.d1
Shicklerville	40 09	92 53	1882.6	8 52.0 E	-- ----	----	8 00 E	-- --	----	NI.d
Edina	40 10	92 10	1903.6	6 55.3 E	70 37.9	.2039	6 58 E	70 39	.2035	CS.4
Kirksville	40 12	92 37	1878.6	8 29.1 E	70 40.6	.2032	7 19 E	70 38	.2009	NI.d1
Do.	40 12	92 37	1882.6	8 16.5 E	-- ----	----	7 23 E	-- --	----	NI.d
Milan	40 12	93 11	1882.6	8 17.9 E	-- ----	----	7 26 E	-- --	----	NI.d
Amick's	40 13	93 38	1882.6	8 14.0 E	-- ----	----	7 24 E	-- --	----	NI.d
Albany	40 14	94 23	1903.5	7 02.1 E	70 18.2	.2073	7 06 E	70 20	.2069	CS.4
Do.	40 15	94 21	1882.6	8 26.0 E	-- ----	----	7 39 E	-- --	----	NI.d
Bethany	40 16	94 03	1882.6	8 43.5 E	-- ----	----	7 54 E	-- --	----	NI.d
Sec. 15, T. 63 N., R. 30 W.	40 16	94 17	1882.6	8 33.2 E	-- ----	----	7 44 E	-- --	----	NI.d
Banke's	40 19	93 07	1882.6	8 37.8 E	-- ----	----	7 46 E	-- --	----	NI.d
Maryville	40 21	94 51	1879.6	11 13.9 E	70 05.8	.2088	10 12 E	70 08	.2062	NI.d1
Princeton	40 24	93 39	1882.6	8 47.4 E	-- ----	----	7 58 E	-- --	----	NI.d
Memphis	40 27	92 13	1878.6	7 47.7 E	70 26.8	.2060	6 38 E	70 24	.2037	NI.d1
Ward's	40 27	93 10	1882.6	8 29.1 E	-- ----	----	7 38 E	-- --	----	NI.d
Williams's	40 27	93 21	1882.6	8 38.8 E	-- ----	----	7 47 E	-- --	----	NI.d
Unionville	40 29	93 03	1882.6	8 00.7 E	-- ----	----	7 08 E	-- --	----	NI.d
Lancaster	40 31	92 31	1900.8	7 28.0 E	70 29.6	.2053	7 32 E	70 34	.2044	CS.d2

MONTANA

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Red Lodge	45 12	109 16	1906.8	18 30.2 E	72 10.0	.1872	18 25 E	72 09	.1874	CS.7
Dillon	45 13	112 39	1905.7	20 14.8 E	71 11.6	.1950	20 12 E	71 11	.1951	CS.6
Birney	45 21	106 31	1906.7	17 35.3 E	72 18.2	.1866	17 31 E	72 17	.1867	CS.7
Crow Agency	45 36	107 27	1905.6	18 13.5 E	72 21.1	.1861	18 12 E	72 21	.1863	CS.6
Do.	45 36	107 27	1905.6	18 14.4 E	72 20.2	.1855	18 13 E	72 20	.1857	CS.6
Wisdom	45 38	113 27	1906.7	20 46.2 E	71 02.9	.1952	20 41 E	71 02	.1954	CS.7
Fort Ellis	45 40	110 58	1882.6	19 35.0 E	71 43.4	.1959	19 45 E	71 48	.1947	CS.d1
Bozeman	45 40	111 02	1896.5	18 39.6 E	71 39.2	.1909	19 00 E	71 42	.1905	CS.d1
Fort Custer	45 45	107 48	1882.6	-- ----	72 23.4	.1921	-- --	72 28	.1912	CS.1
Divide, A	45 45	112 45	1906.7	17 32.7 E	71 37.7	.1918	17 27 E	71 37	.1919	CS.7
Divide	45 45	112 46	1906.7	18 42.0 E	71 25.0	.1951	18 37 E	71 24	.1953	CS.7
Billings	45 47	108 33	1906.8	18 02.5 E	72 16.8	.1870	17 57 E	72 16	.1872	CS.7
Big Timber	45 49	109 59	1906.8	20 03.2 E	72 07.1	.1872	19 58 E	72 06	.1873	CS.7
Anaconda	46 08	112 59	1905.7	21 03.1 E	71 36.6	.1909	21 00 E	71 36	.1909	CS.6
Forsyth	46 15	106 39	1896.4	17 46.4 E	73 04.4	.1803	18 04 E	73 06	.1801	CS.d1
Townsend	46 19	111 31	1896.5	19 32.0 E	72 09.0	.1865	19 51 E	72 13	.1861	CS.d1
Miles City	46 24	105 53	1896.4	16 53.3 E	73 35.0	.1757	17 09 E	73 37	.1755	CS.d1
Deer Lodge	46 24	112 45	1906.7	20 36.2 E	71 59.9	.1874	20 31 E	71 59	.1876	CS.7
Stevensville	46 30	114 05	1905.7	20 49.9 E	71 43.1	.1894	20 48 E	71 43	.1894	CS.6
Helena	46 37	112 02	1903.7	19 44.6 E	72 11.5	.1855	19 48 E	72 12	.1854	CS.4
Do.	46 37	112 02	1905.6	19 49.2 E	72 08.4	.1855	19 47 E	72 09	.1855	CS.6
Missoula	46 52	114 00	1906.7	21 22.0 E	71 56.2	.1873	21 17 E	71 56	.1875	CS.7
Neihart	46 56	110 43	1906.6	19 49.4 E	72 19.3	.1865	19 44 E	72 19	.1866	CS.7
Ovando	47 02	113 08	1906.7	21 26.0 E	72 06.6	.1860	21 21 E	72 06	.1862	CS.7
Lewistown	47 04	109 26	1905.7	19 53.2 E	73 09.7	.1780	19 51 E	73 09	.1780	CS.6
Glendive	47 06	104 42	1906.6	17 05.8 E	74 19.8	.1687	17 02 E	74 19	.1689	CS.7
Glendive (new)	47 07	104 42	1906.6	17 10.1 E	74 19.5	.1683	17 06 E	74 19	.1684	CS.7
Superior	47 12	114 54	1905.7	21 51.8 E	71 56.3	.1871	21 50 E	71 56	.1872	CS.6
Cascade	47 16	111 42	1896.5	19 29.8 E	72 37.0	.1835	19 50 E	72 40	.1833	CS.d1

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

MONTANA—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Tokna	47 28	104 22	1906.5	17 20.1 E	74 41.0	.1653	17 16 E	74 40	.1654	CS.7
Great Falls	47 28	111 16	1906.6	21 25.7 E	72 52.2	.1803	21 21 E	72 52	.1804	CS.7
Ronan	47 32	114 07	1906.7	22 19.6 E	72 23.0	.1839	22 14 E	72 23	.1840	CS.7
Judith	47 44	109 39	1906.5	20 24.1 E	73 41.3	.1738	20 20 E	73 41	.1739	CS.7
Chouteau	47 48	112 10	1906.6	21 05.4 E	73 11.7	.1764	21 00 E	73 11	.1765	CS.7
Fort Benton	47 49	110 41	1906.5	21 03.0 E	73 44.8	.1734	20 58 E	73 44	.1735	CS.7
Zortman	47 55	108 30	1906.5	20 00.4 E	74 09.5	.1691	19 56 E	74 09	.1692	CS.7
Poplar	48 06	105 12	1906.5	18 14.8 E	75 17.0	.1588	18 11 E	75 16	.1589	CS.7
Kalispell	48 10	114 17	1906.6	22 50.3 E	72 48.8	.1802	22 45 E	72 48	.1803	CS.7
Big Sandy	48 11	110 07	1906.5	21 34.2 E	73 46.0	.1721	21 29 E	73 45	.1722	CS.7
Glasgow	48 12	106 37	1903.8	19 09.6 E	74 51.4	.1632	19 14 E	74 52	.1631	CS.4
Do.	48 12	106 38	1906.5	19 25.3 E	74 50.0	.1629	19 21 E	74 50	.1630	CS.6
Malta	48 21	107 52	1906.5	20 13.0 E	74 36.4	.1645	20 09 E	74 36	.1646	CS.6
South Crossing, Kootenay R.	48 22	115 21	1861.5	22 16 E	72 48.1	.1832	22 36 E	72 56	.1813	CS.d1†
Jennings	48 22	115 22	1906.6	22 17.2 E	72 43.2	.1801	22 12 E	72 43	.1802	CS.7
Shelby	48 30	111 53	1906.6	22 04.8 E	73 53.6	.1702	22 00 E	73 53	.1704	CS.7
Harlem	48 32	108 47	1906.5	21 05.4 E	74 35.4	.1648	21 01 E	74 35	.1649	CS.6
Havre	48 33	109 42	1906.5	20 51.6 E	74 27.8	.1660	20 47 E	74 27	.1661	CS.7
Browning	48 35	113 03	1906.6	20 46.4 E	73 16.8	.1781	20 41 E	73 16	.1782	CS.7.
Chinook	48 36	109 14	1903.8	19 21.2 E	74 26.8	.1671	19 26 E	74 27	.1670	CS 4.
Kootenay River	48 40	115 17	1861.5	23 24 E	73 07.2	.1800	23 44 E	73 16	.1781	CS.d1‡
Avery	48 56	108 36	1906.5	20 26.5 E	74 50.5	.1624	20 22 E	74 50	.1625	CS.7
Tobacco Plains	48 57	115 08	1861.6	-- ----	73 22.9	.1777	-- --	73 32	.1758	CS.1‡
Camp Kootenay E.	48 59	115 12	1861.5	22 58 E	73 11	.1775	23 18 E	73 20	.1756	CS.d1†
Sweet Grass	49 00	111 58	1906.6	22 31.1 E	73 57.0	.1699	22 26 E	73 56	.1701	CS.7
Camp Kishenehu	49 00	114 21	1861.5	22 58 E	73 46.8	.1748	23 18 E	73 56	.1728	CS.d1†
Flathead River	49 00	114 27	1903.8	23 35.6 E	73 47.7	.1715	23 40 E	73 48	.1715	CS 4
Wigwam Creek	49 00	114 45	1901.7	23 19.9 E	-- ----	----	23 32 E	-- --	----	CS.d
Phillips Ranch	49 00	115 03	1905.8	24 01.0 E	73 20.7	.1744	23 58 E	73 20	.1744	CS.6
Tobacco Plains	49 00	115 04	1901.6	23 40.2 E	-- ----	----	23 52 E	-- --	----	CS.d
Kootenay R. east	49 00	115 10	1901.8	23 38.9 E	-- ----	----	23 51 E	-- --	----	CS.d
Gateway	49 00	115 10	1906.6	24 02.2 E	73 16.4	.1754	23 57 E	73 16	.1755	CS.7
Monument No. 11	49 00	115 15	1903.9	23 41.8 E	73 20.4	.1753	23 46 E	73 21	.1752	CS.4
Yahk River	49 00	115 39	1905.8	23 36.4 E	73 16.4	.1745	23 34 E	73 16	.1745	CS.6

NEBRASKA

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Superior	40 02	98 02	1900.6	10 17.6 E	69 10.4	.2160	10 26 E	69 16	.2150	CS.d2
Benkelman	40 04	101 30	1902.9	12 34.2 E	68 33.3	.2201	12 39 E	68 36	.2196	CS.3
Fairbury	40 08	97 11	1902.8	10 23.6 E	69 26.8	.2161	10 29 E	69 30	.2156	CS.3
Culbertson	40 15	100 46	1902.9	12 15.7 E	69 04.4	.2164	12 20 E	69 07	.2160	CS.3
Beatrice	40 17	96 48	1902.8	10 14.5 E	69 58.5	.2087	10 20 E	70 01	.2082	CS.3
Indianola	40 16	100 22	1902.9	11 54.6 E	69 10.7	.2162	11 59 E	69 13	.2158	CS.3
Tecumseh	40 23	96 12	1902.8	8 29.7 E	70 02.4	.2071	8 35 E	70 05	.2067	CS.3
Holdrege	40 28	99 20	1902.9	11 47.5 E	69 23.3	.2133	11 52 E	69 26	.2128	CS.3
Hayes Center	40 32	100 58	1902.9	11 16.9 E	69 27.3	.2136	11 22 E	69 30	.2132	CS.3
Geneva	40 33	97 36	1902.8	11 15.2 E	69 35.1	.2139	11 20 E	69 38	.2135	CS.3
Imperial	40 33	101 36	1902.9	12 52.4 E	69 10.8	.2161	12 57 E	69 13	.2157	CS.3
Stockville	40 34	100 22	1902.9	12 07.8 E	69 34.7	.2098	12 12 E	69 37	.2094	CS.3
Hastings	40 37	98 24	1902.8	10 16.8 E	70 00.0	.2089	10 22 E	70 03	.2085	CS.3
Elwood	40 37	99 52	1902.9	12 26.4 E	69 39.4	.2096	12 31 E	69 42	.2092	CS.3
Kearney	40 42	99 05	1902.8	13 01.2 E	70 05.9	.2070	13 06 E	70 08	.2066	CS.3
Shelton	40 47	98 44	1906.7	11 41.5 E	70 24.7	.2072	11 38 E	70 23	.2076	CS.7
Lincoln	40 49	96 42	1902.8	10 10.0 E	70 27.1	.2051	10 15 E	70 30	.2047	CS.3
York	40 52	97 34	1900.6	10 22.6 E	70 12.3	.2086	10 30 E	70 17	.2077	CS.d2
Grant	40 52	101 41	1902.9	12 51.9 E	69 42.2	.2103	12 57 E	69 45	.2099	CS.3
Grand Island	40 55	98 23	1872.8	13 13.5 E	70 15.5	.2091	11 56 E	70 22	.2069	NA.d1
Do.	40 55	98 18	1878.7	12 51.7 E	70 17.7	.2106	12 03 E	70 26	.2083	CS.d1§
Chappell	41 06	102 28	1900.8	13 44.7 E	69 23.1	.2130	13 52 E	69 27	.2122	CS.d2
North Platte	41 08	100 46	1902.9	11 54.3 E	69 39.9	.2109	11 58 E	69 42	.2105	CS.3
Ogalalla	41 09	101 42	1902.9	13 38.0 E	69 54.0	.2083	13 42 E	69 56	.2079	CS.3

† U. S. Northwest Boundary Commission; J. S. Harris, observer; revised results.
‡ Boundary Survey; R. W. Haig, observer; Phil. trans. R. S., 1864; revised results.
§ T. E. Thorpe, observer; Proc. R. S. No. 200, 1880.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

NEBRASKA—Continued

Station	Lati-tude N.	Longi-tude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Sidney	41 09	103 00	1900.8	13 38.3 E	69 31.5	.2123	13 46 E	69 35	.2114	CS.d2
St. Paul	41 12	98 27	1900.6	11 24.6 E	70 28.6	.2106	11 32 E	70 33	.2056	CS.d2
Wahoo	41 14	96 38	1902.8	9 06.4 E	70 56.8	.2012	9 12 E	70 59	.2008	CS.3
Kimball	41 14	103 38	1900.8	13 44.8 E	69. 30.7	.2118	13 52 E	69 35	.2111	CS.d2
Omaha	41 16	95 58	1900.7	9 30.0 E	71 09.5	.1982	9 36 E	71 14	.1974	CS.d2
Broken Bow	41 23	99 36	1900.7	11 54.8 E	70 06.6	.2073	12 02 E	70 11	.2065	CS.d2
Schuyler	41 26	97 04	1900.6	10 42.2 E	71 01.8	.1994	10 50 E	71 07	.1986	CS.d2
Gandy	41 28	100 27	1900.7	12 12.8 E	70 03.0	.2090	12 20 E	70 07	.2082	CS.d2
Hartman	41 29	102 21	1900.8	13 28.6 E	69 47.9	.2092	13 36 E	69 52	.2084	CS.d2
Tyron	41 34	100 58	1900.7	13 14.8 E	70 09.9	.2076	13 23 E	70 14	.2068	CS.d2
Harrisburg	41 34	103 45	1900.8	14 22.1 E	69 52.3	.2094	14 29 E	69 56	.2087	CS.d2
Daily	41 36	98 39	1906.7	11 42.7 E	71 08.3	.1985	11 39 E	71 07	.1988	CS.7
Secs. 10, 11, T 19, R. 37	41 38	101 32	1900.7	12 44.6 E	70 05.7	.2073	12 52 E	70 10	.2066	CS.d2
Bridgeport	41 40	103 05	1900.8	13 22.3 E	69 50.6	.2086	13 30 E	69 54	.2079	CS.d2
Albion	41 41	97 59	1900.6	11 01.7 E	70 40.9	.2024	11 10 E	70 45	.2016	CS.d2
Burwell	41 46	99 12	1900.7	11 52.5 E	70 41.1	.2022	12 00 E	70 45	.2015	CS.d2
Gering	41 49	103 40	1900.8	14 20.5 E	69 58.7	.2071	14 28 E	70 03	.2063	CS.d2
Bartlett	41 52	98 33	1900.7	11 17.5 E	71 04.0	.1985	11 25 E	71 08	.1977	CS.d2
Brewster	41 56	99 50	1900.7	11 18.6 E	70 44.1	.2023	11 26 E	70 48	.2016	CS.d2
Thedford	41 59	100 31	1900.7	12 10.2 E	70 44.8	.2024	12 17 E	70 49	.2017	CS.d2
Hyannis	41 59	101 46	1900.7	13 23.0 E	70 28.8	.2041	13 30 E	70 33	.2033	CS.d2
School section 36	42 00	99 21	1900.7	11 51.0 E	70 57.5	.1999	11 58 E	71 02	.1992	CS.d2
Norfolk	42 02	97 22	1896.4	10 33.3 E	71 06.8	.1986	10 41 E	71 15	.1972	CS.d1
Mullen	42 02	101 00	1900.7	12 50.2 E	70 38.8	.2030	12 57 E	70 43	.2023	CS.d2
Alliance	42 06	102 51	1900.7	14 10.3 E	70 16.3	.2052	14 18 E	70 20	.2045	CS.d2
Neligh	42 08	98 02	1900.6	11 15.8 E	71 01.4	.2004	11 24 E	71 06	.1996	CS.d2
Hewitt	42 15	103 59	1900.8	15 06.7 E	70 33.1	.2059	15 14 E	70 37	.2052	CS.d2
Spring Lake Ranch	42 26	102 04	1900.8	13 50.5 E	70 31.1	.2038	13 58 E	70 35	.2032	CS.d2
Marshland	42 26	103 16	1900.8	14 13.4 E	70 31.8	.2036	14 21 E	70 36	.2030	CS.d2
O'Neill	42 28	98 39	1906.7	11 48.4 E	71 20.1	.1974	11 45 E	71 18	.1977	CS.7
Keystone Ranch	42 28	102 48	1900.8	13 07.4 E	70 37.3	.2031	13 14 E	70 41	.2025	CS.d2
Kennedy	42 31	100 50	1900.7	12 36.9 E	71 12.5	.1983	12 44 E	71 17	.1977	CS.d2
Ainsworth	42 33	99 52	1900.7	11 52.5 E	71 12.6	.1983	12 00 E	71 17	.1977	CS.d2
Newport	42 36	99 20	1900.6	12 06.1 E	71 18.2	.1973	12 13 E	71 22	.1966	CS.d2
Harrison	42 41	103 53	1900.8	14 47.5 E	70 36.9	.2018	14 54 E	70 41	.2012	CS.d2
Rushville	42 43	102 29	1900.7	14 10.9 E	70 52.2	.2002	14 18 E	70 56	.1996	CS.d2
Spring View	42 49	99 45	1900.7	12 10.4 E	71 31.1	.1953	12 18 E	71 35	.1947	CS.d2
Chadron	42 51	102 59	1906.7	14 21.8 E	71 12.7	.1975	14 18 E	71 11	.1978	CS.7
Valentine	42 52	100 34	1900.7	12 33.7 E	71 32.8	.1944	12 41 E	71 37	.1938	CS.d2
Merriman	42 55	101 44	1900.8	14 15.8 E	71 34.2	.1952	14 23 E	71 38	.1946	CS.d2

NEVADA

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
T_{142}, T_{141}, Von Schmidt 35° E. Lat. Pier	35 01	114 40	1899.1	14 12 E	-- ----	----	14 28 E	-- --	----	CS.d
T_{139}, T_{138}, T_{135}, T_{135}—T_{134}	35 08	114 49	1899.1	14 42 E	-- ----	----	14 58 E	-- --	----	CS.d
T_{133}, T_{122}, T_{130}	35 21	115 05	1899.1	14 37 E	-- ----	----	14 54 E	-- --	----	CS.d
T_{125}, T_{124}, T_{122}, T_{121}	35 41	115 30	1899.1	14 56 E	-- ----	----	15 13 E	-- --	----	CS.d
T_{120}, T_{119}, T_{117}, T_{116}	35 51	115 42	1899.2	15 03 E	-- ----	----	15 20 E	-- --	----	CS.d
T_{115}, T_{114}, T_{113}, T_{112}, T_{111}	36 00	115 54	1899.2	15 06 E	-- ----	----	15 23 E	-- --	----	CS.d
T_{110}, T_{109}, T_{108}, T_{107}	36 09	116 05	1899.2	15 13 E	-- ----	----	15 28 E	-- --	----	CS.d
Las Vegas	36 10	115 11	1906.4	15 33.0 E	62 25.7	.2547	15 29 E	62 26	.2549	CS.6
T_{106}, T_{105}, T_{103}, T_{102}	36 20	116 19	1899.2	15 10 E	-- ----	----	15 25 E	-- --	----	CS.d
T_{101}, T_{100}, T_{99}, T_{98}	36 30	116 33	1899.2	15 23 E	-- ----	----	15 38 E	-- --	----	CS.d
T_{98}, T_{97}, T_{96}, T_{95}, T_{94}	36 39	116 45	1895.8	15 40 E	-- ----	----	16 03 E	-- --	----	CS.d
Rox	36 52	114 42	1906.4	16 14.4 E	62 47.4	.2539	16 10 E	62 46	.2541	CS.6
T_{92}, T_{91}, T_{90}	36 55	117 06	1895.7	16 10 E	-- ----	----	16 35 E	-- --	----	CS.d
T_{89}, T_{88}, T_{85}, T_{84}	37 06	117 20	1895.8	16 08 E	-- ----	----	16 33 E	-- --	----	CS.d
T_{83}, T_{82}, T_{80}, T_{79}, T_{78}	37 19	117 38	1895.6	16 20 E	-- ----	----	16 45 E	-- --	----	CS.d
T_{77}, T_{76}, T_{75}, T_{74}, T_{73}	37 29	117 51	1895.6	16 19 E	-- ----	----	16 44 E	-- --	----	CS.d
T_{72}, T_{71}, T_{70}, T_{69}, T_{68}	37 35	118 00	1895.6	16 29 E	-- ----	----	16 54 E	-- --	----	CS.d
Caliente	37 36	114 31	1906.4	16 58.6 E	63 46.7	.2470	16 54 E	63 46	.2472	CS.6
$T_{67\frac{1}{2}}$, T_{67}, T_{66}, T_{65}, T_{64}	37 42	118 09	1895.5	16 13 E	-- ----	----	16 38 E	-- --	----	CS.d

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

NEVADA—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
T_{63}, T_{62}, T_{61}, T_{60}, T_{59}	37 49	118 19	1895.5	16 43 E	-- ----	----	17 08 E	-- --	----	CS.d
T_{58}, Nev.-Cal. Bndry.	37 56	118 29	1894.9	13 42 E	-- ----	----	14 08 E	-- --	----	CS.d
Pioche	37 59	114 03	1883.7	17 10.9 E	65 36	.2380	17 34 E	65 47	.2349	CS.d1
Tonopah	38 04	117 14	1902.7	16 43 E	-- --	----	16 51 E	-- --	----	CS.3
T_{46}, T_{48}, T_{49}, T_{50}, T_{53}	38 05	118 41	1894.9	16 24 E	-- --	----	16 49 E	-- --	----	CS.d
T_{39}, T_{40}, T_{43}, T_{44}, T_{45}	38 15	118 55	1894.8	15 57 E	-- --	----	16 23 E	-- --	----	CS.d
White Pine	38 19	115 30	1881.9	16 04.1 E	64 04.1	.2485	16 28 E	64 12	.2449	CS.d1
Sodaville	38 20	118 06	1905.4	17 21.7 E	63 42.9	.2463	17 20 E	63 43	.2464	CS.5
T_{33}, T_{34}, T_{35}, T_{36}, T_{37}, T_{38}	38 24	119 08	1894.8	16 30 E	-- ----	----	16 56 E	-- --	----	CS.d
Hawthorne	38 32	118 38	1905.4	17 33.9 E	63 42.1	.2449	17 33 E	63 42	.2450	CS.5
T_{28}, T_{29}, T_{30}, T_{31}, T_{32}	38 34	119 22	1894.8	16 33 E	-- ----	----	17 00 E	-- --	----	CS.d
T_{22}, T_{23}, T_{24}, T_{25}, T_{27}	38 41	119 33	1894.8	17 15 E	-- ----	----	17 43 E	-- --	----	CS.d
T_{15}, T_{16}, T_{17}, T_{18}, T_{19}, T_{20}	38 48	119 42	1894.7	16 20 E	-- ----	----	16 49 E	-- --	----	CS.d
T_8, T_9, T_{10}, T_{11}, T_{12}, T_{13}, T_{14}	38 51	119 47	1894.7	16 53 E	-- ----	----	17 23 E	-- --	----	CS.d
Hot Spring	38 55	118 12	1902.8	17 31 E	-- ----	----	17 39 E	-- --	----	CS.3
Initial, 1894, T_1, T_3, T_4, T_5, T_6, and T_7	38 56	119 55	1894.6	16 28 E	-- ----	----	16 56 E	-- --	----	CS.d
Esmeralda Mill	38 58	118 14	1902.8	17 18 E	-- ----	----	17 26 E	-- --	----	CS.3
Wheeler Peak	38 59	114 19	1882.9	16 30.4 E	64 59.9	.2430	16 51 E	65 07	.2401	CS.d1
Yerington	38 59	119 10	1905.4	17 21.4 E	64 05.1	.2441	17 20 E	64 05	.2442	CS.5
Tres Pinos	39 00	114 14	1882.9	16 22.7 E	65 00.8	.2431	16 45 E	65 08	.2403	CS.d1
Genoa	39 00	119 50	1889.6	16 44.3 E	64 04.4	.2406	17 18 E	64 07	.2387	CS.d1
Lehman's Ranch	39 01	114 08	1882.9	16 16.5 E	65 02.4	.2438	16 40 E	65 09	.2410	CS.d1
Big Bend, Walker R.	39 09	118 56	1859.6	16 56 E	63 37	----	17 32 E	63 32	----	CS.d1 †
Carson City	39 10	119 45	1905.3	17 01.7 E	63 45.1	.2472	17 01 E	63 45	.2473	CS.5
Carson Lake	39 24	118 39	1859.6	17 11 E	64 02	----	17 47 E	63 56	----	CS.d1 †
Austin	39 29	117 04	1881.4	16 57.0 E	64 49.0	.2422	17 21 E	64 56	.2392	CS.d1
Reno	39 30	119 49	1881.3	17 48.7 E	64 14.1	.2452	18 22 E	64 20	.2422	CS.d1
Eureka	39 31	115 58	1881.4	16 36.6 E	65 08.4	.2406	17 01 E	65 14	.2376	CS.d1
Verdi	39 31	119 59	1889.5	17 26.7 E	64 23.1	.2422	17 58 E	64 30	.2401	CS.d1
Diamond Peak	39 35	115 49	1881.7	16 49.7 E	65 12.3	.2402	17 12 E	65 18	.2372	CS.d1
Mt. Callahan	39 42	116 57	1881.5	17 04.0 E	65 07.4	.2407	17 25 E	65 14	.2377	CS.d1
Kobah Valley	39 44	116 10	1858.9	16 44 E	64 56	----	16 51 E	64 50	----	CS.d1 †
Antelope Valley	39 47	114 12	1859.5	16 47 E	65 16	----	16 46 E	65 09	----	CS.d1 †
Hot Springs	39 47	118 56	1881.3	17 26.6 E	64 46.5	.2430	18 00 E	64 54	.2400	CS.d1
Cho-Keep Pass	39 54	115 45	1858.9	17 02 E	65 19	----	17 05 E	65 19	----	CS.d1 †
Huntingdon Spring	40 01	115 19	1859.5	18 06 E	65 25	----	18 09 E	65 25	----	CS.d1 †
Mineral Hill	40 10	116 12	1881.4	17 03.2 E	65 40.7	.2375	17 28 E	65 48	.2345	CS.d1
Rye Patch	40 26	118 18	1881.3	17 49.7 E	65 23.9	.2379	18 23 E	65 31	.2349	CS.d1
Battle Mountain	40 40	116 50	1881.3	17 34.8 E	65 51.2	.2359	18 00 E	65 58	.2329	CS.d1
Elko	40 51	115 46	1905.4	18 05.4 E	66 22.4	.2304	18 04 E	66 22	.2304	CS.5
Winnemucca	40 59	117 44	1906.7	18 47.8 E	66 03.9	.2313	18 42 E	66 03	.2315	CS.7
Wells Station	41 07	114 56	1881.3	17 21.8 E	66 49.9	.2300	17 40 E	66 57	.2270	CS.d1
Tecoma	41 20	114 06	1881.3	17 28.2 E	67 08.0	.2281	17 45 E	67 15	.2251	CS.d1
Amos	41 23	117 51	1906.7	18 34.4 E	66 37.0	.2279	18 29 E	66 36	.2281	CS.7

NEW HAMPSHIRE

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Troy	42 50	72 11	1861.6	9 03.3 W	74 45.7	.1650	11 23 W	73 33	.1721	CS.d1
Monadnock	42 52	72 06	1861.6	-- ----	74 44.4	----	-- --	73 29	----	CS.1
Chesterfield	42 54	72 26	1890.7	11 12.7 W	73 54.7	.1677	12 03 W	73 35	.1695	CS.d1
Unkonoonuc	42 59	71 35	1848.8	9 04.1 W	75 08.7	.1603	12 11 W	73 46	.1696	CS.d1
Patuccawa	43 07	71 12	1849.6	10 42.8 W	76 49.5	.1426	13 51 W	75 27	.1520	CS.d1
Newport	43 22	72 10	1905.7	13 23.4 W	74 00.8	.1676	13 21 W	74 01	.1675	CS.6
Gunstock	43 31	71 22	1860.5	10 54.1 W	75 43.6	.1568	13 10 W	74 31	.1657	CS.d1
Hanover	43 43	72 17	1905.7	12 48.4 W	74 22.7	.1639	12 46 W	74 23	.1638	CS.6
Plymouth	43 46	71 42	1905.7	13 32.0 W	74 16.5	.1641	13 30 W	74 17	.1640	CS.6
Glen House	44 16	71 14	1856.6	-- ----	75 56	----	-- --	74 36	----	AA.1
Littleton	44 19	71 48	1873.8	12 35.1 W	75 39.1	.1558	14 09 W	74 48	.1607	NA.d1
Gorham	44 22	71 15	1873.7	13 47.0 W	75 35.6	.1572	15 22 W	74 45	.1623	NA.d1
Colebrook	44 53	71 31	1905.7	15 59.7 W	75 15.2	.1563	15 57 W	75 15	.1563	CS.6

† J. H. Simpson, observer; J. B. Stone's Mag. Var., New York, 1878.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

NEW JERSEY

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Cape May Point	38 56	74 58	1903.6	6 27.6 W	70 32.1	.1979	6 32 W	70 32	.1976	CS.4
Townbank	38 59	74 58	1846.5	2 59.0 W	71 23.6	.1968	6 22 W	70 25	.1981	CS.d1
Sea Isle City	39 10	74 41	1903.6	6 51.5 W	70 36.5	.1978	6 56 W	70 36	.1975	CS.4
Egg Island L. H.	39 11	75 08	1903.5	6 20.0 W	70 46.4	.1955	6 25 W	70 46	.1952	CS.4
Port Norris	39 15	75 01	1903.5	6 35.0 W	70 46.0	.1957	6 40 W	70 46	.1954	CS.4
Atlantic City	39 22	74 25	1903.6	7 22.8 W	70 45.3	.1958	7 28 W	70 45	.1955	CS.4
Bridgeton	39 25	75 16	1903.5	6 29.6 W	70 38.1	.1981	6 35 W	70 38	.1978	CS.4
Pine Mount	39 25	75 20	1846.5	3 14.2 W	71 41.4	.1954	6 36 W	70 42	.1967	CS.d1
Hawkins	39 26	75 17	1846.5	2 58.8 W	71 42.6	.1948	6 21 W	70 46	.1961	CS.d1
Mays Landing	39 27	74 44	1903.6	7 00.4 W	71 05.5	.1941	7 06 W	71 05	.1939	CS.4
Old Inlet, Tucker's I.	39 31	74 17	1846.9	4 27.8 W	-- ----	----	7 50 W	-- --	----	CS.d
Long Beach	39 32	74 15	1903.6	7 53.0 W	71 01.3	.1937	7 58 W	71 01	.1935	CS.4
Salem	39 34	75 28	1903.7	6 48.3 W	70 52.4	.1952	6 52 W	70 52	.1950	CS.4
Tuckerton	39 36	74 20	1846.0	- ----	72 12.3	.1873	- --	71 14	.1885	CS.1
Church Landing	39 41	75 31	1846.4	5 49.1 W	71 22.0	.1988	9 14 W	70 23	.2001	CS.d1
Barnegat L. H.	39 46	74 06	1903.6	7 58.8 W	71 09.1	.1924	8 04 W	71 09	.1922	CS.4
Chew	39 48	75 10	1846.5	3 45.2 W	72 14.4	.1893	7 12 W	71 15	.1906	CS.d1
Chatsworth	39 49	74 32	1903.6	7 40.6 W	71 14.9	.1916	7 46 W	71 15	.1913	CS.4
Mount Royal	39 49	75 12	1903.5	7 12.2 W	71 15.4	.1917	7 18 W	71 15	.1915	CS.4
Camden	39 55	75 05	1903.5	7 08.6 W	71 07.4	.1927	7 14 W	71 07	.1925	CS.4
Toms River	39 57	74 12	1903.6	8 03.6 W	71 20.1	.1908	8 08 W	71 20	.1906	CS.4
Mount Holly	40 00	74 48	1903.6	7 36.8 W	71 15.0	.1924	7 42 W	71 15	.1922	CS.4
Burlington Is.	40 05	74 52	1902.7	7 44.0 W	71 16.6	.1931	7 51 W	71 16	.1927	CS.3
White Hill	40 08	74 44	1846.4	4 25.9 W	72 06.2	.1912	7 50 W	71 07	.1925	CS.d1
Trenton	40 14	74 48	1903.6	8 00.6 W	71 23.4	.1921	8 06 W	71 23	.1918	CS.4
Freehold	40 15	74 17	1903.7	8 27.6 W	71 22.3	.1907	8 32 W	71 22	.1905	CS.4
Princeton College	40 21	74 40	1844.4	- ----	72 40.2	.1852	- --	71 45	.1857	CS.1
Mount Rose	40 22	74 43	1903.7	8 36.7 W	71 45.0	.1900	8 42 W	71 45	.1898	CS.4
Do.	40 22	74 43	1903.7	8 05.0 W	-- ----	----	8 10 W	-- --	----	CS.4
Princeton, Rocky H.	40 23	74 39	1844.4	- ----	72 35.0	.1867	- --	71 40	.1874	CS.1
Mount Mitchell	40 24	74 00	1844.0	5 39.4 W	-- ----	----	9 08 W	-- --	----	CS.d
Sandy Hook	40 28	74 00	1903.7	8 52.9 W	71 41.3	.1886	8 58 W	71 41	.1884	CS.4
New Brunswick	40 30	74 27	1903.7	8 17.5 W	71 49.0	.1876	8 22 W	71 49	.1874	CS.4
Flemington	40 30	74 52	1904.4	8 14.2 W	71 41.0	.1891	8 16 W	71 41	.1890	CS.4
Perth Amboy	40 32	74 17	1903.7	8 57.5 W	71 47.2	.1884	9 02 W	71 47	.1882	CS.4
Somerville	40 34	74 36	1904.4	9 07.7 W	71 43.9	.1889	9 10 W	71 44	.1888	CS.4
Elizabeth	40 40	74 13	1904.5	8 59.6 W	71 50.8	.1871	9 01 W	71 50	.1870	CS.4
Snake Hill	40 43	74 06	1844.3	- ----	72 45.4	----	- --	71 40	----	CS.1
Bergen Neck	40 46	74 03	1840.5	5 53 W	-- ----	----	9 37 W	-- --	----	CS.d
Newark	40 46	74 11	1904.5	8 59.1 W	72 06.2	.1869	9 01 W	72 06	.1868	CS.4
Morristown	40 48	74 27	1904.5	9 38.9 W	71 54.5	.1876	9 41 W	71 54	.1875	CS.5
Belvidere	40 50	75 05	1904.5	6 53.5 W	72 18.2	.1836	6 55 W	72 18	.1835	CS.5
Fort Lee	40 51	73 58	1844.3	- ----	72 41	----	- --	71 36	----	CS.1
Hackensack	40 54	74 03	1904.5	8 56.3 W	72 10.5	.1845	8 58 W	72 10	.1844	CS.4
Paterson	40 55	74 09	1904.5	8 54.7 W	72 08.3	.1852	8 57 W	72 08	.1851	CS.4
Newton	41 03	74 46	1904.5	8 24.0 W	72 26.3	.1821	8 26 W	72 26	.1821	CS.5

NEW MEXICO

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Mexican Boundary	31 20	108 12	1892.5	12 03.0 E	-- ----	----	12 18 E	-- --	----	CS.d‡
Do.	31 20	108 38	1892.5	11 53.6 E	-- ----	----	12 09 E	-- --	----	CS.d‡
Do.	31 20	108 52	1892.5	12 14.0 E	-- ----	----	12 29 E	-- --	----	CS.d‡
San Luis Springs	31 20	108 48	1855.3	11 45 E	57 37	.2889	12 02 E	58 03	.2787	CS.d1†
Agua del Perro	31 21	108 20	1855.3	11 58 E	57 28	.2838	12 15 E	57 54	.2737	CS.d1†
Intersection Point	31 46	106 50	1855.7	11 40 E	-- ----	----	11 57 E	-- --	----	CS.d†
Initial Point	31 47	106 28	1855.1	11 55 E	58 39	.2860	12 12 E	59 09	.2759	CS.do†
Mexican Boundary	31 47	107 22	1892.3	10 16.7 E	-- ----	----	10 31 E	-- --	----	CS.d‡
Do.	31 47	107 44	1892.3	11 56.3 E	-- ----	----	12 10 E	-- --	----	CS.d‡
Do.	31 47	108 12	1892.3	12 00.7 E	-- ----	----	12 15 E	-- --	----	CS.d‡
Rodeo	31 50	109 01	1903.4	12 22.7 E	58 50.4	.2795	12 28 E	58 52	.2792	CS.3
Carrizalillo	31 51	107 56	1855.2	12 02 E	58 31	.2824	12 19 E	59 01	.2722	CS.d1†
Hachita	31 55	108 19	1903.4	12 32.7 E	59 08.8	.2777	12 38 E	59 12	.2774	CS.3

† U. S. & Mex. Bound. Sur.; W. H. Emory, observer; Am. Acad. Sc., Vol. VI, 1856.
‡ Rep. Boundary Commission, Washington, 1898; J. F. Hayford, observer.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

NEW MEXICO—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Orange	32 02	105 21	1906.3	11 51.7 E	59 53.6	.2749	11 48 E	59 52	.2752	CS.6
Separ	32 13	108 25	1903.4	12 36.7 E	59 27.5	.2763	12 42 E	59 30	.2759	CS.3
Deming	32 15	107 46	1905.1	12 09.0 E	59 35.9	.2753	12 09 E	59 36	.2753	CS.5
Las Cruces	32 19	106 48	1906.3	12 21.3 E	59 29.3	.2765	12 18 E	59 28	.2767	CS.6
Lordsburg	32 20	108 42	1903.4	12 40.7 E	59 39.9	.2731	12 46 E	59 42	.2728	CS.3
Donna Ana	32 22	106 45	1851.5	12 07 E	59 06	----	12 24 E	59 34	----	CS.d1†
Station IX	32 22	107 24	1851.5	-- ----	59 09	----	-- --	59 38	----	CS.1†
Jarilla	32 23	106 06	1906.2	12 00.9 E	60 17.7	.2717	11 58 E	60 16	.2720	CS.6
Carlsbad	32 26	104 15	1902.1	11 34.8 E	60 17.4	.2752	11 42 E	60 22	.2744	CS.d2
Prather's Ranch	32 26	105 44	1906.3	12 14.8 E	60 11.2	.2724	12 11 E	60 10	.2727	CS.6
McMillan	32 40	104 22	1902.1	11 18.0 E	60 41.3	.2716	11 25 E	60 46	.2708	CS.d2
Ojo de Inez	32 45	108 14	1851.5	-- ----	59 18	----	-- --	59 46	----	CS.1†
Silver City	32 46	108 18	1906.3	12 45.6 E	59 50.8	.2730	12 42 E	59 49	.2733	CS.6
Hope	32 48	104 45	1902.3	11 39.2 E	60 45.8	.2718	11 45 E	60 50	.2710	CS.d2
Copper Mines	32 48	108 04	1851.5	11 22 E	59 17	----	11 39 E	59 44	----	CS.d1†
Stegman	32 51	104 25	1902.3	11 35.9 E	60 52.2	.2708	11 43 E	60 57	.2701	CS.d2
Alamagordo	32 54	105 58	1906.2	12 14.0 E	60 16.1	.2726	12 10 E	60 15	.2729	CS.6
Do.	32 54	105 59	1902.2	11 59.3 E	60 10.2	.2745	12 05 E	60 15	.2738	CS.d2
Lower Penasco	32 55	105 15	1902.2	11 35.1 E	60 32.7	.2727	11 42 E	60 38	.2720	CS.d2
Upper Penasco	32 55	105 29	1902.2	11 23.6 E	60 26.5	.2750	11 30 E	60 32	.2743	CS.d2
Cloudcroft	32 58	106 06	1906.3	12 28.2 E	60 43.0	.2709	12 25 E	60 42	.2712	CS.6
Tularosa	33 05	106 02	1902.2	12 15.8 E	60 31.9	.2707	12 22 E	60 36	.2701	CS.d2
Hagerman	33 08	104 18	1902.3	11 19.6 E	61 08.2	.2697	11 27 E	61 12	.2691	CS.d2
Engle	33 10	107 03	1906.3	12 46.4 E	60 45.6	.2690	12 43 E	60 44	.2693	CS.6
Mescalero	33 11	105 48	1902.2	12 23.4 E	60 37.3	.2720	12 30 E	60 42	.2713	CS.d2
Picacho	33 21	105 09	1902.2	11 46.8 E	61 30.9	.2678	11 54 E	61 36	.2671	CS.d2
Roswell	33 24	104 32	1902.1	12 06.5 E	61 22.9	.2683	12 14 E	61 28	.2676	CS.d2
Lincoln	33 31	105 24	1902.2	12 09.4 E	61 30.9	.2679	12 16 E	61 36	.2673	CS.d2
Capitan	33 35	105 35	1902.2	12 22.7 E	61 57.3	.2646	12 29 E	62 02	.2640	CS.d2
Campbell	33 37	104 15	1902.1	11 41.0 E	61 36.5	.2675	11 49 E	61 41	.2667	CS.d2
Fort Craig	33 38	107 00	1900.0	12 29.5 E	61 02.9	.2677	12 39 E	61 08	.2666	CS d2
Carrizozo Ranch	33 42	105 53	1902.2	12 31.4 E	61 21.6	.2680	12 38 E	61 24	.2673	CS.d2
White Oaks	33 46	105 44	1902.2	12 40.0 E	61 33.3	.2668	12 47 E	61 36	.2661	CS.d2
Kenna	33 53	103 47	1902.1	11 48.4 E	62 06.1	.2642	11 56 E	62 10	.2634	CS.d2
Socorro	34 05	106 53	1900.0	12 47.5 E	61 32.2	.2651	12 57 E	61 39	.2640	CS.d2
Portales	34 12	103 20	1901.9	11 25.8 E	62 45.7	.2601	11 33 E	62 50	.2592	CS.d2
Torrance	34 21	105 32	1906.3	12 36.7 E	62 07.2	.2621	12 33 E	62 06	.2624	CS.6
Isleta	34 54	106 40	1853.8	13 13 E	62 24	.2679	12 59 E	62 45	.2572	CS.d1‡
Santa Rosa	34 56	104 41	1906.3	12 14.2 E	62 59.9	.2570	12 11 E	62 58	.2574	CS.6
Rio San Jose	35 01	107 14	1853.9	13 46 E	63 18	.2602	13 32 E	63 39	.2495	CS.d1‡
Cedar Forest	35 01	108 55	1853.9	13 01 E	61 40	.2733	12 47 E	62 02	.2626	CS.d1‡
Agua Fria	35 02	107 58	1853.9	13 25 E	62 05	.2709	13 11 E	62 26	.2602	CS.d1‡
Laguna	35 03	107 24	1903.2	13 08.7 E	62 41.0	.2602	13 14 E	62 43	.2598	CS.3
Inscription Rock	35 03	108 14	1853.9	12 57 E	62 03	.2699	12 43 E	62 24	.2592	CS.d1
Covero	35 05	107 26	1853.9	13 49 E	62 26	.2680	13 35 E	62 47	.2573	CS.d1‡
Hay Camp	35 05	107 39	1853.9	13 56 E	62 39	----	13 42 E	63 00	----	CS.d1‡
Arch Spring	35 05	108 48	1853.9	-- ----	61 55	.2715	-- --	62 16	.2608	CS.1‡
Albuquerque	35 06	106 39	1899.9	13 00.0 E	62 42.2	.2592	13 10 E	62 49	.2581	CS.d2
Zuni River	35 06	108 39	1853.9	13 24 E	62 02	.2705	13 10 E	62 23	.2598	CS.d1‡
Tucumcari	35 10	103 47	1906.3	12 24.9 E	63 17.9	.2567	12 21 E	63 16	.2571	CS.6
Grant	35 10	107 51	1899.9	14 19.0 E	62 45.2	.2555	14 30 E	62 52	.2544	CS.d2
Fort Wingate	35 29	108 32	1899.9	13 21.0 E	63 00.9	.2570	13 34 E	63 08	.2559	CS.d2
East Las Vegas	35 35	105 14	1900.0	12 48.9 E	63 49.6	.2537	13 00 E	63 56	.2526	CS.d2
Nara Visa	35 36	103 09	1906.3	11 49.4 E	64 08.3	.2510	11 46 E	64 07	.2513	CS.6
Sante Fe	35 41	105 57	1899.9	12 34.8 E	63 36.6	.2543	12 46 E	63 44	.2532	CS.d2
Fort Union	35 54	105 01	1888.9	13 25.0 E	63 50.2	.2504	13 30 E	64 04	.2477	CS.d1
Springer	36 22	104 36	1900.0	14 04.8 E	64 10.2	.2528	14 18 E	64 17	.2517	CS.d2
Clayton	36 27	103 10	1900.0	10 25.6 E	64 59.2	.2435	10 36 E	65 06	.2424	CS.d2
Tres Piedras	36 42	105 57	1899.9	13 20.0 E	64 20.9	.2480	13 31 E	64 28	.2469	CS.d2
Folsom	36 52	103 56	1903.2	12 44.4 E	65 10.9	.2438	12 49 E	65 12	.2432	CS.3
Lumberton	36 57	106 55	1899.9	13 42.7 E	64 37.8	.2462	13 55 E	64 42	.2451	CS.d2

† U. S. & Mex. Bound. Sur.; W. H. Emory, observer; Am. Acad. Sc., Vol. IV, 1856.
‡ J. C. Ives and A. W. Whipple, observers; C. & G. S. Report, 1856, p. 222.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

NEW YORK

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c.g.s.*	° ′	° ′	*c.g.s.*	
Cole	40 32	74 14	1846.3	5 37.4 W	72 34.2	.1857	9 02 W	71 37	.1895	CS.d1
Far Rockaway	40 36	73 46	1875.6	7 12 W	-- ----	----	8 52 W	-- --	----	CS.d
Fire Island	40 38	73 14	1904.6	9 13.3 W	72 09.9	.1841	9 15 W	72 10	.1840	CS.5
Howard	40 38	74 05	1840.5	5 01 W	-- ----	----	8 45 W	-- --	----	CS.d
Mount Prospect	40 40	73 58	1860.7	6 44.0 W	72 40.8	.1868	9 18 W	71 34	.1916	CS.d1
Babylon	40 42	73 20	1875.6	7 35 W	-- ----	----	9 13 W	-- --	----	CS.d
Patchogue	40 45	73 02	1875.6	8 00.5 W	72 45.4	.1830	9 38 W	71 56	.1853	NA.d1
West Hampton	40 49	72 39	1904.6	10 20.5 W	72 04.4	.1848	10 22 W	72 04	.1848	CS.5
West Hills	40 49	73 26	1865.6	7 01.5 W	72 56.8	.1812	9 18 W	71 51	.1855	CS.d1
Legget	40 49	73 54	1847.8	5 41.0 W	72 52.7	.1833	9 00 W	71 48	.1877	CS.d1
Riverside Park	40 49	73 58	1885.8	8 59.7 W	72 12.0	.1860	10 04 W	71 49	.1862	CS.d1
Manhattanville Blind Asylum	40 50	73 56	1846.3	5 09.7 W	72 39.0	.1848	8 34 W	71 35	.1888	CS.d1
Ruland	40 51	73 02	1865.4	7 30.8 W	72 54.9	.1819	9 48 W	71 49	.1863	CS.d1
Oyster Bay	40 52	73 31	1904.6	9 28.1 W	72 06.1	.1851	9 30 W	72 06	.1851	CS.5
Sands Point	40 52	73 44	1847.8	6 09.9 W	-- ----	----	9 29 W	-- --	----	CS.d
New Rochelle	40 52	73 47	1844.7	5 29.5 W	72 44.0	.1773	9 00 W	71 41	.1809	CS.d1
New York, Bronx P.	40 52	73 52	1905.8	9 08.1 W	72 02.0	.1869	9 05 W	72 02	.1870	CS.6
Drowned Meadow	40 56	73 04	1845.7	6 03.6 W	-- ----	----	9 36 W	-- --	----	CS.d
Lloyd Harbor	40 56	73 25	1844.7	6 11.6 W	72 50.6	.1778	9 46 W	71 44	.1814	CS.d1
Setauket	40 57	73 07	1904.6	9 19.3 W	72 23.8	.1814	9 21 W	72 24	.1814	CS.5
East Hampton	40 58	72 12	1875.6	9 05.6 W	72 47.3	.1838	10 42 W	71 56	.1868	CS.d1
Lightning	40 58	72 59	1903.2	9 59.3 W	-- ----	----	10 06 W	-- --	----	CS.3
Crane Neck	40 58	73 09	1903.2	9 16.8 W	-- ----	----	9 23 W	-- --	----	CS.3
Sag Harbor	41 00	72 17	1860.7	8 27.7 W	73 20.9	.1800	11 04 W	72 05	.1867	CS.d1
Port Chester	41 00	73 40	1844.7	5 58.0 W	72 53.4	----	9 32 W	71 49	----	CS.d1
Duer	41 00	73 54	1873.6	7 37 W	-- ----	----	9 24 W	-- --	----	CS.d
White Plains	41 01	73 46	1904.7	9 59.0 W	71 47.3	.1873	10 00 W	71 47	.1873	CS.5
Montauk Point	41 02	71 55	1904.6	10 05.5 W	71 58.6	.1840	10 07 W	71 58	.1839	CS.5
Greenport	41 06	72 22	1904.6	10 25.2 W	72 07.3	.1855	10 27 W	72 07	.1854	CS.5
Buttermilk	41 07	73 49	1833.5	3 56 W	-- ----	----	8 13 W	-- --	----	CS.d
New City	41 09	74 00	1904.7	9 50.4 W	72 16.0	.1833	9 52 W	72 16	.1832	CS.5
Bald Hill	41 13	73 29	1833.6	5 34 W	-- ----	----	9 54 W	-- --	----	CS.d
Carpenters Pt., Port Jervis	41 21	74 42	1873.5	7 04.8 W	73 14.3	.1797	8 59 W	72 28	.1821	CS.d1
Carmel	41 25	73 41	1904.7	10 35.9 W	72 29.5	.1815	10 37 W	72 29	.1815	CS.5
Cold Spring	41 25	73 58	1855.7	5 34.0 W	73 54.8	.1747	8 29 W	72 47	.1793	CS.d1
Goshen	41 25	74 19	1904.7	8 50.3 W	72 32.5	.1804	8 51 W	72 32	.1804	CS.5
Monticello	41 38	74 43	1904.7	8 09.5 W	72 49.4	.1762	8 11 W	72 49	.1762	CS.5
Poughkeepsie	41 43	73 55	1904.7	9 21.7 W	73 04.1	.1758	9 23 W	73 04	.1758	CS.5
Kingston	41 57	73 59	1904.7	10 03.5 W	72 48.6	.1768	10 04 W	72 48	.1768	CS.5
Binghamton	42 05	75 56	1888.5	7 49.2 W	-- ----	----	8 49 W	-- --	----	CS.d
Big Indian	42 06	74 26	1905.8	9 55.3 W	73 00.5	.1770	9 52 W	73 01	.1770	CS.6
Elmira	42 07	76 50	1905.5	7 52.3 W	73 22.9	.1740	7 51 W	73 23	.1741	CS.6
Belmont	42 13	78 02	1905.5	6 02.8 W	73 22.0	.1758	6 02 W	73 22	.1758	CS.6
Delhi	42 15	74 56	1905.5	9 33.7 W	73 27.5	.1742	9 32 W	73 28	.1743	CS.5
Do.	42 15	74 56	1905.8	9 39.4 W	73 20.4	.1735	9 36 W	73 21	.1736	CS.6
Little Valley	42 16	78 48	1905.5	4 39.8 W	73 27.3	.1760	4 39 W	73 27	.1760	CS.6
Maysville	42 16	79 31	1874.6	2 15.0 W	74 05.0	.1721	4 19 W	73 26	.1748	NA.d1
Bath	42 21	77 21	1862.6	4 47.9 W	74 26.2	.1690	7 46 W	73 36	.1728	CS.d1
Do.	42 22	77 21	1874.6	5 34.4 W	74 15.5	.1717	7 39 W	73 36	.1745	NA.d1
Oxford, new sta.	42 27	75 35	1905.5	9 04.2 W	73 26.8	.1744	9 03 W	73 27	.1743	CS.5
Oxford, old sta.	42 27	75 36	1905.5	8 49.2 W	73 23.9	.1746	8 48 W	73 24	.1745	CS.5
Ithaca	42 27	76 29	1890.8	6 31.5 W	73 49.5	.1692	7 25 W	73 40	.1707	CS.d1
Ithaca (new)	42 27	76 29	1907.5	7 31.9 W	73 43.1	.1702	7 23 W	73 43	.1700	CS.7
Greenbush	42 38	73 44	1855.7	7 54.7 W	75 11.1	.1654	10 56 W	74 00	.1704	CS.d1
Albany	42 40	73 45	1905.7	11 08.0 W	-- ----	.1693	11 06 W	-- --	.1693	CS.6
Do.	42 40	73 45	1905.7	-- ----	73 43.3	----	-- --	73 44	----	CS.6
Penn Yan	42 40	77 05	1887.4	7 17.5 W	73 50.0	.1728	8 22 W	73 35	.1742	CS.d1†
Sherborne	42 41	75 33	1875.7	7 49.5 W	74 15.1	.1718	9 46 W	73 37	.1749	CS.d1
Warsaw	42 45	78 08	1905.5	5 27.0 W	73 44.9	.1726	5 26 W	73 45	.1726	CS.6
Otsego	42 47	74 42	1882.6	8 46.2 W	73 55.4	.1694	9 59 W	73 32	.1718	CS.d1
Cooks Point	42 52	77 17	1888.4	6 57.7 W	-- ----	.1716	8 02 W	-- --	.1728	CS.d1†
Buffalo	42 54	78 54	1903.7	6 22.0 W	-- ----	----	6 27 W	-- --	----	LS.3E
Do.	42 54	78 55	1905.4	6 15.2 W	73 46.4	.1714	6 14 W	73 46	.1715	CS.5
Fenner	42 57	75 45	1882.8	7 15.4 W	74 18.4	.1681	8 32 W	73 55	.1704	CS.d1
Auburn	42 57	76 33	1907.5	8 29.7 W	73 56.4	.1704	8 21 W	73 56	.1702	CS.7

† The observations were made by Cornell University students.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

NEW YORK—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Johnstown	43 00	74 24	1905.6	11 22.9 W	73 43.7	.1711	11 21 W	73 44	.1711	CS.6
Howlett	43 00	76 17	1883.7	7 47.1 W	74 17.5	.1671	9 05 W	73 55	.1695	CS.d1
Clinton	43 03	75 24	1874.8	8 05.5 W	74 37.5	.1676	10 04 W	73 58	.1708	CS.d1
Clyde	43 03	76 52	1883.7	7 04.4 W	74 31.8	.1651	8 27 W	74 09	.1671	CS.d1
Niagara Falls	43 04	79 04	1874.6	3 37.1 W	74 37.7	.1681	5 48 W	73 58	.1717	NA.d1
Rochester	43 09	77 38	1874.6	5 17.8 W	74 38.5	.1675	7 20 W	73 58	.1709	NA.d1
Charlotte	43 13	77 40	1873.4	3 46.2 W	74 50	.1675	5 59 W	74 09	.1710	LS.d1
Do.	43 16	77 37	1903.7	6 21.0 W	-- ----	----	6 26 W	-- --	----	LS.3E
Fort Niagara	43 15	79 04	1859.4	2 55.7 W	74 51	.1652	6 06 W	74 00	.1696	LS.d1
Sodus Point	43 16	76 59	1903.7	9 09.9 W	-- ----	----	9 15 W	-- --	----	LS.3E
Olcott	43 20	78 43	1903.7	6 20.1 W	-- ----	----	6 25 W	-- --	----	LS.3E
Loomis	43 21	76 17	1882.9	8 10.0 W	74 47.7	.1622	9 32 W	74 25	.1645	CS.d1
Caldwell	43 23	73 40	1903.4	11 29 W	-- ----	----	11 34 W	-- --	----	CS.d
Penmount	43 23	75 16	1882.6	8 32.2 W	74 31.4	.1663	9 50 W	74 07	.1686	CS.d1
Lake George	43 25	73 42	1905.6	11 56.3 W	74 13.7	.1650	11 55 W	74 14	.1650	CS.6
Prospect	43 26	73 45	1882.6	10 50.8 W	74 43.5	.1625	12 04 W	74 16	.1656	CS.d1
Port Ontario	43 34	76 12	1903.7	10 07.0 W	-- ----	----	10 14 W	-- --	----	LS.3E
Mannsville	43 43	76 03	1884.4	6 50.9 W	-- ----	.1599	8 04 W	-- --	.1622	CS.d1
Pierrepont Manor	43 44	76 03	1874.8	6 11.9 W	75 25.1	.1600	8 10 W	74 43	.1635	CS.d1
Beaver River	43 54	74 55	1905.6	10 40.4 W	74 51.9	.1604	10 38 W	74 52	.1604	CS.6
Sacketts Harbor	43 57	76 07	1873.4	8 14.9 W	75 24	.1600	10 00 W	74 40	.1638	LS.d1
Antwerp	44 12	75 37	1905.5	10 27.4 W	75 17.4	.1564	10 25 W	75 18	.1563	CS.6
Elizabethtown	44 13	73 34	1905.6	13 13.9 W	74 51.3	.1580	13 12 W	74 52	.1580	CS.6
Saranac Lake	44 20	74 09	1905.6	10 20.6 W	74 40.3	.1629	10 18 W	74 41	.1629	CS.6
Potsdam	44 37	75 00	1874.8	9 25.1 W	76 03.3	.1507	11 06 W	75 16	.1552	CS.d1
Plattsburg	44 40	73 27	1905.6	11 48.0 W	74 04.6	.1695	11 46 W	74 05	.1694	CS.6
Malone	44 51	74 17	1905.5	15 11.6 W	74 26.3	.1659	15 10 W	74 27	.1658	CS.6
Rouse Point	45 00	73 21	1879.8	13 39.1 W	76 18.2	.1508	14 50 W	75 36	.1549	CS.d1

NORTH CAROLINA

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Southport	33 55	78 01	1906.6	2 14.0 W	65 48.5	.2345	2 10 W	65 47	.2351	CS.7
Ft. Johnson, Smithville	33 55	78 01	1887.2	1 07.8 W	65 34.0	.2387	2 09 W	65 44	.2353	CS.d1
Wilmington	34 14	77 57	1898.6	1 50.2 W	66 16.0	.2332	2 07 W	66 26	.2313	CS.d2†
Lake Waccamaw	34 18	78 32	1891.4	0 41.2 W	65 57.4	.2340	1 26 W	66 08	.2316	CS.d1
Whiteville	34 19	78 42	1899.9	1 43.8 W	65 49.3	.2377	1 56 W	65 57	.2359	CS.d2†
Fair Bluff	34 19	79 01	1891.4	0 36.5 W	65 48.0	.2370	1 19 W	65 59	.2343	CS.d1
Burgaw	34 32	77 55	1899.5	1 28.8 W	66 32.5	.2334	1 42 W	66 40	.2315	CS.d2†
Elizabethtown	34 36	78 32	1899.9	1 37.8 W	66 22.0	.2328	1 50 W	66 29	.2310	CS.d2†
Lumberton	34 36	78 58	1899.9	1 12.0 W	66 01.7	.2365	1 24 W	66 09	.2347	CS.d2†
Beaufort	34 43	76 40	1898.3	2 36.3 W	66 27.1	.2308	2 54 W	66 36	.2289	CS.d2†
Jacksonville	34 44	77 22	1898.6	2 28.8 W	66 25.5	.2329	2 46 W	66 34	.2310	CS.d2†
Laurinburg	34 47	79 28	1899.9	1 20.6 W	66 30.2	.2332	1 32 W	66 38	.2314	CS.d2†
Rockingham	34 54	79 46	1899.6	1 24.0 W	66 25.3	.2328	1 37 W	66 32	.2310	CS.d2†
Kenansville	34 58	77 58	1899.5	1 37.0 W	66 56.7	.2291	1 50 W	67 04	.2272	CS.d2†
Wadesboro	34 58	80 03	1904.8	0 08.5 W	66 45.0	.2293	0 09 W	66 45	.2293	CS.5
Monroe	34 58	80 34	1899.6	0 15.8 W	66 10.7	.2365	0 28 W	66 18	.2347	CS.d2†
Warsaw	34 59	78 05	1891.4	1 34.9 W	66 42.4	.2282	2 19 W	66 52	.2258	CS.d1
Clinton	35 00	78 19	1899.5	1 33.3 W	66 50.5	.2299	1 47 W	66 57	.2280	CS.d2†
Hayesville	35 02	83 49	1900.7	1 04.5 E	66 13.4	.2389	0 57 E	66 20	.2375	CS.d2
Fayetteville	35 03	78 52	1899.4	1 41.7 W	66 48.0	.2313	1 55 W	66 55	.2294	CS.d2†
Portsmouth Ids.	35 04	76 03	1871.3	2 22.0 W	67 13.6	.2303	4 26 W	66 55	.2255	CS.d1
Trenton	35 04	77 21	1900.8	2 54.6 W	66 51.2	.2284	3 06 W	66 53	.2269	CS.d2
Murphy	35 05	84 03	1898.7	2 18.2 E	66 52.5	.2334	2 06 E	66 59	.2314	CS.d2†
Newbern	35 07	77 03	1906.6	3 13.6 W	67 03.5	.2251	3 09 W	67 02	.2257	CS.7
Bayboro	35 08	76 45	1898.5	2 43.2 W	67 00.8	.2284	3 03 W	67 09	.2266	CS.d2†
Franklin	35 11	83 23	1898.7	1 36.3 E	66 24.2	.2330	1 23 E	66 32	.2312	CS.d2†
Charlotte	35 13	80 51	1899.6	0 23.5 W	66 33.8	.2314	0 36 W	66 42	.2295	CS.d2†
Brevard	35 14	82 44	1898.8	0 27.8 E	66 15.1	.2356	0 14 E	66 24	.2338	CS.d2†
Columbus	35 15	82 10	1900.8	0 05.5 W	66 24.1	.2345	0 13 W	66 30	.2331	CS.d2
Cape Hatteras L. H.	35 16	75 32	1898.5	3 53.0 W	67 09.0	.2246	4 14 W	67 16	.2227	CS.d2†
Kingston	35 16	77 35	1899.4	1 50.9 W	67 04.0	.2287	2 04 W	67 10	.2268	CS.d2†
Shelby	35 17	81 33	1899.6	0 05.4 W	66 43.1	.2335	0 17 W	66 52	.2317	CS.d2†

† These observations were made under the joint auspices of the U. S. Coast and Geodetic Survey and the North Carolina Geological Survey (J. A. Holmes, State Geologist). *Cf.* App. 9, C. & G. S. Report for 1899, Washington, 1900.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

NORTH CAROLINA—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Dallas	35 19	81 13	1900.8	0 06.2 W	66 31.6	.2320	0 15 W	66 38	.2305	CS.d2
Hendersonville	35 19	82 28	1900.8	0 08.4 W	66 21.3	.2357	0 16 W	66 28	.2343	CS.d2
Carthage	35 20	79 25	1899.6	1 16.2 W	66 45.7	.2304	1 30 W	66 51	.2285	CS.d2†
Robbinsville	35 20	83 47	1900.7	1 41.8 E	66 33.6	.2346	1 34 E	66 40	.2332	CS.d2
Webster	35 21	83 14	1898.8	1 43.0 E	66 48.1	.2326	1 30 E	66 56	.2308	CS.d2†
Lillington	35 22	78 47	1899.9	1 59.4 W	66 48.0	.2297	2 12 W	66 54	.2279	CS.d2†
Troy	35 22	79 52	1899.8	1 26.3 W	66 39.6	.2333	1 40 W	66 46	.2315	CS.d2†
Albemarle	35 22	80 12	1900.8	1 10.1 W	66 41.1	.2331	1 18 W	66 47	.2316	CS.d2
Rutherfordton	35 22	81 57	1899.6	0 15.6 W	66 44.4	.2339	0 27 W	66 52	.2321	CS.d2†
Goldsboro	35 23	77 59	1899.4	1 50.3 W	67 01.6	.2291	2 04 W	67 08	.2271	CS.d2
Do.	35 23	77 59	1906.5	- ----	67 07.7	.2258	- --	67 06	.2263	CS.7
Swanquarter	35 24	76 19	1898.5	3 18.9 W	67 14.2	.2258	3 39 W	67 20	.2239	CS.d2
Concord	35 24	80 35	1899.7	2 48.8 W	67 08.8	.2264	3 00 W	67 16	.2245	CS.d2
Bryson City	35 25	83 27	1898.7	0 55.5 E	66 36.1	.2341	0 43 E	66 43	.2322	CS.d2
Snowhill	35 28	77 37	1899.5	3 26.0 W	67 08.1	.2317	3 40 W	67 14	.2299	CS.d2
Lincolnton	35 28	81 16	1899.6	0 35.8 W	66 47.4	.2323	0 47 W	66 55	.2304	CS.d2†
Waynesville	35 30	82 59	1900.7	0 38.8 E	66 51.9	.2317	0 31 E	66 58	.2302	CS.d2
Smithfield	35 32	78 21	1899.4	0 56.8 W	66 12.2	.2377	1 11 W	66 18	.2358	CS.d2†
Washington	35 33	77 03	1898.5	2 44.0 W	67 16.7	.2251	3 04 W	67 23	.2232	CS.d2†
Chicamicomico	35 35	75 28	1898.4	3 52.3 W	67 21.0	.2256	4 14 W	67 28	.2237	CS.d2†
Asheville	35 35	82 32	1898.7	0 13.4 E	66 57.8	.2322	0 00	67 06	.2303	CS.d2†
Greenville	35 36	77 22	1898.5	2 33.5 W	67 19.9	.2261	2 54 W	67 26	.2242	CS.d2†
Salisbury	35 40	80 30	1905.3	0 33.4 W	67 13.7	.2245	0 33 W	67 13	.2246	CS.5
Newton	35 40	81 13	1900.8	0 15.6 W	66 53.4	.2312	0 24 W	66 59	.2298	CS.d2
Marion	35 40	82 01	1898.6	0 53.6 W	66 39.9	.2338	1 08 W	66 48	.2319	CS.d2†
Ashboro	35 42	79 49	1899.8	1 58.8 W	67 13.0	.2282	2 12 W	67 20	.2264	CS.d2†
Pittsboro	35 43	79 11	1899.5	2 35.0 W	67 10.9	.2293	2 48 W	67 17	.2274	CS.d2†
Wilson	35 44	77 55	1899.4	1 59.6 W	67 34.5	.2261	2 14 W	67 40	.2242	CS.d2†
Morganton,	35 44	81 43	1906.6	0 38.8 W	67 07.2	.2280	0 36 W	67 05	.2286	CS.7
Statesville	35 47	80 53	1899.7	0 50.5 W	67 14.4	.2303	1 02 W	67 21	.2285	CS.d2†
Marshall	35 47	82 40	1898.7	0 14.6 E	67 04.9	.2309	0 02 E	67 12	.2291	CS.d2†
Marshall A	35 48	82 41	1906.6	0 16.4 W	67 15.8	.2280	0 14 W	67 14	.2285	CS.7
Raleigh	35 48	78 40	1906.6	2 54.2 W	67 28.3	.2244	2 50 W	67 27	.2248	CS.7
Raleigh A	35 48	78 42	1906.6	2 21.8 W	67 36.5	.2239	2 18 W	67 35	.2244	CS.7
Bodies Island	35 48	75 32	1847.0	1 13.4 W	68 18.1	.2193	4 48 W	67 50	.2159	CS.d1
Jamesville	35 48	76 52	1891.4	2 09.2 W	67 27.1	.2236	2 55 W	67 32	.2211	CS.d1
Sand Island	35 50	75 40	1876.1	2 58.9 W	68 05.4	.2256	4 44 W	67 46	.2226	CS.d1
Williamston	35 50	77 02	1899.9	3 05.3 W	67 39.5	.2232	3 20 W	67 44	.2215	CS.d2†
Lexington	35 50	80 16	1900.8	0 04.9 W	67 08.5	.2283	0 14 W	67 14	.2268	CS.d2
Warm Spring	35 50	82 48	1833.7	- ----	67 39	----	- --	67 24	----	CS.1
Plymouth	35 52	76 44	1898.4	3 26.9 W	67 34.4	.2235	3 49 W	67 41	.2216	CS.d2†
Mocksville	35 53	80 34	1900.8	1 18.3 W	66 48.3	.2310	1 28 W	66 53	.2295	CS.d2
Chapel Hill	35 54	79 05	1906.6	1 54.0 W	67 51.8	.2191	1 50 W	67 50	.2196	CS.7
Tarboro	35 54	77 37	1899.3	3 33.2 W	67 58.2	.2218	3 50 W	68 04	.2200	CS.d2†
Lenoir	35 54	81 32	1900.7	0 36.5 W	67 12.6	.2302	0 46 W	67 19	.2287	CS.d2
Burnsville	35 54	82 17	1900.7	0 01.3 E	67 16.2	.2291	0 06 W	67 25	.2276	CS.d2
Manteo	35 55	75 40	1898.4	4 22.2 W	67 33.6	.2227	4 44 W	67 40	.2208	CS.d2†
Columbia	35 55	76 15	1899.3	4 01.1 W	67 26.4	.2254	4 19 W	67 32	.2236	CS.d2†
Taylorsville	35 55	81 10	1900.8	0 36.6 W	67 09.9	.2289	0 46 W	67 16	.2274	CS.d2
Windsor	35 56	76 59	1898.4	4 29.6 W	67 38.6	.2249	4 50 W	67 45	.2230	CS.d2†
Rockymount	35 56	77 48	1900.4	2 30.2 W	67 39.0	.2231	2 44 W	67 44	.2215	CS.d2
Nashville	35 58	77 58	1899.4	1 42.2 W	67 44.0	.2202	1 58 W	67 50	.2183	CS.d2†
Bakersville	36 01	82 09	1900.7	0 40.8 W	67 22.0	.2288	0 49 W	67 28	.2274	CS.d2
Louisburg	36 03	78 19	1900.0	2 24.1 W	67 40.8	.2237	2 38 W	67 46	.2220	CS.d2†
Durham	36 03	78 55	1898.3	1 18.9 W	67 41.6	.2265	1 37 W	67 48	.2246	CS.d2†
Poore	36 03	81 09	1895.7	0 25.7 W	67 23.6	.2275	0 52 W	67 30	.2252	CS.d1
Shellbank	36 04	75 44	1847.2	1 44.8 W	68 37.8	.2173	5 18 W	67 54	.2139	CS.d1
Edenton	36 04	76 36	1898.4	3 29.2 W	67 48.9	.2221	3 52 W	67 55	.2202	CS.d2†
Hillsboro	36 04	79 05	1898.3	2 03.9 W	68 30.6	.2197	2 24 W	68 37	.2178	CS.d2†
Graham	36 04	79 24	1900.0	2 02.9 W	67 12.0	.2308	2 17 W	67 17	.2291	CS.d2†
Greensboro	36 04	79 49	1899.7	0 50.3 W	67 56.8	.2227	1 04 W	68 03	.2209	CS.d2†
Stevenson Point	36 06	76 11	1847.1	1 39.6 W	68 54.5	.2149	5 13 W	68 09	.2115	CS.d1
Winston-Salem	36 06	80 15	1899.7	1 42.9 W	67 28.5	.2266	1 56 W	67 34	.2248	CS.d2†
Roan High Bluff	36 06	82 09	1907.4	1 26.9 E	67 54.0	.2259	1 30 E	67 51	.2269	CS.7
Yadkinville	36 08	80 39	1900.6	1 02.6 W	67 27.5	.2271	1 14 W	67 32	.2256	CS.d2
Wilkesboro	36 09	81 09	1899.7	0 29.7 W	67 40.1	.2265	0 42 W	67 46	.2247	CS.d2†
Hertford	36 11	76 28	1899.3	3 15.1 W	67 53.4	.2215	3 35 W	67 58	.2197	CS.d2†

† These observations were made under the joint auspices of the U. S. Coast and Geodetic Survey and the North Carolina Geological Survey (J. A. Holmes, State Geologist). *Cf.* App. 9, C. & G. S. Report for 1899, Washington, 1900.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

NORTH CAROLINA—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Boone	36 13	81 41	1900.6	0 39.7 W	67 51.1	.2236	0 48 W	67 57	.2221	CS.d2
Elizabeth City	36 18	76 13	1898.4	4 14.4 W	68 03.8	.2207	4 37 W	68 10	.2188	CS.d2†
Oxford	36 18	78 38	1898.3	2 00.5 W	67 48.6	.2237	2 22 W	67 55	.2218	CS.d2†
Camden	36 19	76 12	1900.9	4 21.9 W	67 58.3	.2201	4 34 W	68 02	.2187	CS.d2
Halifax	36 19	77 37	1906.5	2 19.7 W	68 03.6	.2175	2 15 W	68 02	.2180	CS.7
Henderson	36 22	78 22	1899.9	2 32.0 W	67 54.7	.2219	2 48 W	68 00	.2202	CS.d2†
Gatesville	36 23	76 48	1899.3	3 45.2 W	68 09.7	.2222	4 04 W	68 15	.2203	CS.d2†
Jackson	36 23	77 29	1899.3	3 11.1 W	68 02.5	.2216	3 28 W	68 08	.2198	CS.d2†
Roxboro	36 23	78 59	1898.3	2 11.4 W	67 58.4	.2207	2 32 W	68 05	.2188	CS.d2†
Winton	36 24	76 59	1899.3	3 15.8 W	68 13.4	.2220	3 35 W	68 18	.2201	CS.d2†
Warrenton	36 24	78 09	1898.3	2 25.2 W	68 02.0	.2206	2 48 W	68 08	.2187	CS.d2†
Yanceyville	36 24	79 22	1900.6	2 00.0 W	67 55.1	.2209	2 14 W	68 00	.2194	CS.d2
Wentworth	36 24	79 47	1899.7	1 57.7 W	67 46.3	.2244	2 14 W	67 52	.2225	CS.d2†
Jefferson	36 24	81 28	1900.6	0 43.1 W	67 44.7	.2236	0 54 W	67 50	.2222	CS.d2
Danbury	36 26	80 12	1900.6	2 23.1 W	67 54.5	.2216	2 35 W	67 58	.2201	CS.d2
Currituck	36 27	76 01	1898.4	4 46.1 W	68 17.6	.2187	5 10 W	68 24	.2168	CS.d2†
Weldon	36 27	77 38	1887.2	2 30.8 W	68 06.8	.2194	3 36 W	67 58	.2167	CS.d1
Mount Airy	36 30	80 37	1899.7	1 13.0 W	67 58.0	.2226	1 28 W	68 03	.2208	CS.d2†
Sparta	36 31	81 09	1900.6	0 39.9 W	67 47.0	.2236	0 50 W	67 52	.2222	CS.d2
Nottaway R.	36 32	76 56	1887.2	2 30.1 W	68 31.6	.2184	3 36 W	68 23	.2157	CS.d1
Knott I., N. C. & Va. Boundary	36 33	75 56	1887.1	3 33.2 W	68 27.9	.2193	4 41 W	68 25	.2166	CS.d1
Northwest, N. C. & Va. Boundary	36 33	76 12	1887.0	2 54.0 W	68 29.8	.2184	4 01 W	68 21	.2157	CS.d1

NORTH DAKOTA

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Haley	45 58	103 08	1906.6	16 08.9 E	73 40.7	.1752	16 05 E	73 40	.1753	CS.7
Ellendale	46 00	98 34	1905.5	12 04.9 E	74 22.8	.1688	12 04 E	74 22	.1688	CS.6
Hawkinson	46 02	96 57	1906.6	11 24.4 E	74 51.7	.1644	11 22 E	74 51	.1645	CS.7
Ashley	46 03	99 23	1906.7	13 18.1 E	74 29.8	.1678	13 14 E	74 29	.1680	CS.7
Linton	46 16	100 15	1906.7	14 10.3 E	74 29.6	.1679	14 07 E	74 29	.1680	CS.7
Napoleon	46 30	99 46	1906.7	12 46.7 E	75 20.9	.1619	12 43 E	75 20	.1620	CS.7
New England	46 33	102 53	1906.6	16 26.9 E	74 08.7	.1709	16 23 E	74 08	.1710	CS.7
Bismarck, C. H. grounds	46 48	100 47	1890.6	15 14.9 E	74 53.3	.1644	15 11 E	74 54	.1638	CS.d1
Fargo	46 51	96 47	1906.7	11 33.9 E	75 38.3	.1570	11 31 E	75 37	.1571	CS.7
Fargo (new)	46 52	96 48	1906.8	11 10.7 E	75 41.8	.1561	11 08 E	75 41	.1561	CS.7
Dickinson	46 53	102 46	1906.6	16 33.7 E	74 26.6	.1679	16 30 E	74 26	.1680	CS.7
Jamestown	46 54	98 43	1896.4	12 27.5 E	75 27.9	.1594	12 35 E	75 30	.1591	CS.d1
Medora	46 56	103 32	1906.6	16 34.0 E	74 23.1	.1683	16 30 E	74 22	.1683	CS.7
Fayette	47 16	102 56	1906.6	16 41.7 E	74 46.4	.1648	16 38 E	74 46	.1648	CS.7
Washburn	47 18	101 02	1905.7	15 34.5 E	75 10.3	.1600	15 32 E	75 10	.1600	CS.6
Hope	47 20	97 43	1905.8	12 21.9 E	75 50.0	.1546	12 20 E	75 50	.1546	CS.6
Carrington	47 27	99 07	1905.8	13 37.1 E	75 38.4	.1558	13 35 E	75 38	.1559	CS.6
Garrison	47 38	101 26	1906.7	15 14.7 E	75 25.5	.1583	15 10 E	75 25	.1584	CS.7
Schafer	47 47	103 13	1906.5	17 03.1 E	75 08.1	.1612	16 59 E	75 07	.1613	CS.7
Grand Forks	47 56	97 02	1905.7	11 36.0 E	76 38.9	.1469	11 34 E	76 39	.1469	CS.6
Lakota	48 03	98 19	1905.7	12 45.5 E	76 15.1	.1509	12 44 E	76 15	.1509	CS.6
Williston	48 09	103 37	1906.5	17 20.3 E	75 21.2	.1587	17 16 E	75 20	.1588	CS.7
Minot	48 14	101 16	1905.7	15 33.7 E	75 47.9	.1540	15 31 E	75 48	.1540	CS.6
Rugby	48 22	99 56	1896.5	13 43.8 E	76 04.6	.1519	13 53 E	76 07	.1516	CS.d1
White Earth	48 22	102 46	1906.5	16 24.2 E	75 39.9	.1560	16 20 E	75 39	.1560	CS.7
Cando	48 30	99 14	1906.5	13 45.5 E	76 20.8	.1498	13 42 E	76 20	.1498	CS.6
Kenmare	48 40	102 08	1906.5	16 22.1 E	76 06.8	.1515	16 18 E	76 06	.1515	CS.7
Langdon	48 46	98 23	1905.7	13 16.4 E	76 53.0	.1439	13 15 E	76 53	.1439	CS.6
Mohall	48 46	101 32	1906.5	16 56.6 E	76 26.9	.1489	16 53 E	76 26	.1490	CS.6
Bottineau	48 50	100 28	1905.7	15 58.9 E	76 34.6	.1477	15 57 E	76 34	.1477	CS.6
Rolla	48 52	99 36	1906.5	14 36.8 E	76 55.0	.1448	14 33 E	76 54	.1448	CS.6
Crosby	48 56	103 21	1906.5	17 58.9 E	75 56.5	.1535	17 55 E	75 56	.1535	CS.7
Pembina	48 58	97 14	1906.7	11 26.0 E	77 17.1	.1396	11 23 E	77 16	.1397	CI.
Do.	48 58	97 15	1905.7	11 28.8 E	77 17.3	.1395	11 27 E	77 17	.1395	CS.6
Portal	49 00	102 33	1906.5	17 41.5 E	76 09.2	.1520	17 38 E	76 08	.1520	CS.7

† These observations were made under the joint auspices of the U. S. Coast and Geodetic Survey and the North Carolina Geological Survey (J. A. Holmes, State Geologist). *Cf.* App. 9, C. & G. S. Report for 1899, Washington, 1900.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

OHIO

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
South Point	38 25	82 35	1864. 1	1 52.9 E	-- ----	----	0 34 W	-- --	----	CS.d
Ironton	38 32	82 40	1904. 6	0 43.7 W	70 36.3	.1996	0 45 W	70 37	.1995	CS.5
Portsmouth	38 45	82 59	1900. 5	2 15.6 W	70 35.6	.2009	2 26 W	70 40	.1997	CS.d2
Gallipolis	38 49	82 14	1904. 6	0 54.0 W	70 18.9	.2029	0 55 W	70 19	.2028	CS.5
West Union	38 49	83 32	1903. 3	0 01.0 W	70 06.3	.2060	0 05 W	70 08	.2056	CS.3
Georgetown	38 53	83 58	1903. 3	0 25.6 E	69 59.7	.2080	0 22 E	70 01	.2076	CS.3
Jackson	39 04	82 37	1903. 3	0 04.6 W	70 24.7	.2015	0 08 W	70 26	.2010	CS.3
Batavia	39 06	84 12	1903. 3	0 39.1 E	70 11.9	.2053	0 36 E	70 14	.2049	CS.3
Cincinnati Obsy.	39 08	84 25	1903. 3	1 09.0 E	70 13.0	.2052	1 06 E	70 15	.2048	CS.3
Cincinnati University	39 08	84 30	1907. 5	0 57.4 E	70 17.4	.2048	1 02 E	70 15	.2057	CS.7
Waverly	39 09	83 00	1903. 3	2 05.2 W	70 12.4	.2042	2 09 W	70 14	.2038	CS.3
Hillsboro	39 14	83 36	1903. 3	0 01.6 E	70 20.7	.2028	0 02 W	70 23	.2024	CS.3
McArthur	39 15	82 28	1904. 6	0 00.1 W	70 32.5	.2025	0 02 W	70 33	.2024	CS.5
Athens	39 20	82 06	1904. 6	0 30.8 W	70 35.5	.2005	0 32 W	70 36	.2004	CS.5
Chillicothe	39 20	82 59	1900. 5	0 32.1 W	71 31.1	.2025	0 43 W	71 35	.2012	CS.d2
Lebanon	39 24	84 15	1903. 4	0 48.1 E	70 42.9	.2020	0 45 E	70 44	.2015	CS.3
Hamilton	39 24	84 32	1903. 4	0 25.6 E	70 36.5	.2033	0 22 E	70 38	.2028	CS.3
Marietta	39 25	81 28	1904. 6	2 08.6 W	70 51.8	.1986	2 10 W	70 52	.1985	CS.5
Marietta	39 25	81 28	1907. 5	2 31.2 W	70 57.1	.1987	2 25 W	70 55	.1996	CS. 7
Wilmington	39 28	83 49	1903. 4	0 25.7 E	70 40.2	.2017	0 22 E	70 42	.2012	CS.3
Oxford	39 30	84 44	1903. 4	1 30.0 E	70 56.0	.2009	1 27 E	70 58	.2005	CS.3
Logan	39 33	82 24	1904. 6	0 29.6 W	70 47.9	.1993	0 31 W	70 48	.1992	CS.5
Washington	39 34	83 25	1900. 5	0 29.7 W	70 28.4	.2026	0 40 W	70 33	.2013	CS.d2
McConnelsville	39 39	81 50	1904. 7	0 57.6 W	71 07.6	.1992	0 58 W	71 08	.1991	CS.5
Centerville	39 39	84 10	1903. 4	0 20.2 E	70 53.9	.1997	0 17 E	70 55	.1993	CS.3
Wilberforce	39 42	83 54	1903. 4	0 01.2 E	70 58.2	.1987	0 02 W	71 00	.1983	CS.3
New Lexington	39 43	82 11	1904. 6	0 55.2 W	71 04.7	.1989	0 56 W	71 05	.1988	CS.5
Caldwell	39 45	81 31	1904. 7	2 14.1 W	70 55.5	.1967	2 15 W	70 56	.1966	CS.5
Dayton	39 45	84 16	1905. 8	0 02.9 W	70 59.8	.1976	0 01 W	70 59	.1978	CS.6
Woodsfield	39 46	81 08	1904. 7	1 42.0 W	70 54.2	.1973	1 43 W	70 55	.1972	CS.5
Lancaster	39 46	82 38	1903. 9	0 07.8 W	70 54.1	.1991	0 10 W	70 55	.1988	CS.4
Eaton	39 48	84 39	1903. 6	0 48.6 E	70 49.2	.2015	0 46 E	70 51	.2013	CS.4
London	39 57	83 27	1903. 4	0 36.0 W	71 13.7	.1956	0 39 W	71 15	.1951	CS.3
Zanesville	39 58	82 03	1904. 7	1 19.4 W	71 11.7	.1977	1 21 W	71 12	.1976	CS.5
Columbus	39 59	83 01	1900. 5	0 43.6 W	70 37.4	.2021	0 54 W	70 42	.2007	CS.d2
Springfield	39 59	83 56	1903. 5	0 10.4 E	71 04.3	.1971	0 07 E	71 06	.1966	CS.3
Troy	40 02	84 06	1903. 5	0 03.2 W	71 04.6	.1971	0 06 W	71 06	.1966	CS.3
Cambridge	40 03	81 35	1904. 7	2 16.1 W	71 22.2	.1935	2 17 W	71 23	.1934	CS.5
Newark	40 04	82 25	1904. 7	0 04.7 E	70 56.9	.1993	0 04 E	70 57	.1992	CS.5
St. Clairsville	40 06	80 55	1904. 7	1 06.4 W	71 39.7	.1915	1 07 W	71 40	.1914	CS.5
Urbana	40 06	83 44	1903. 5	0 21.9 E	71 01.9	.1977	0 19 E	71 03	.1972	CS.3
Greenville	40 07	84 32	1903. 5	0 52.8 E	71 20.2	.1966	0 50 E	71 22	.1962	CS.4
Marysville	40 16	83 23	1903. 6	0 25.8 E	71 29.0	.1948	0 22 E	71 30	.1944	CS.4
Sidney	40 16	84 08	1903. 5	0 04.0 W	71 24.8	.1949	0 07 W	71 26	.1945	CS.4
Coshocton	40 17	81 51	1904. 7	2 03.0 W	71 34.7	.1929	2 04 W	71 35	.1928	CS.5
Cadiz	40 18	81 02	1904. 8	2 02.9 W	71 26.4	.1922	2 04 W	71 27	.1921	CS.5
Delaware	40 22	82 58	1903. 6	0 40.0 W	71 28.3	.1958	0 43 W	71 30	.1953	CS.4
Bellefontaine	40 22	83 46	1900. 5	0 09.3 E	71 22.4	.1930	0 01 W	71 27	.1915	CS.d2
Steubenville	40 24	80 42	1904. 8	1 38.9 W	72 06.4	.1872	1 40 W	72 07	.1871	CS. 5
Tuscarawas	40 24	81 24	1900. 5	2 15.1 W	71 35.8	.1918	2 27 W	71 40	.1904	CS.d2
Mt. Vernon	40 27	82 31	1903. 8	0 38.1 W	71 58.1	.1891	0 40 W	71 59	.1888	CS.4
New Philadelphia	40 28	81 25	1904. 7	2 21.9 W	71 40.0	.1910	2 23 W	71 40	.1909	CS.5
Millersburg	40 34	81 54	1904. 7	2 24.9 W	71 55.2	.1891	2 26 W	71 55	.1890	CS.5
Mt. Gilead	40 34	82 48	1903. 6	0 39.2 W	71 43.5	.1929	0 42 W	71 45	.1924	CS.4
Mt. Gilead, N. M.	40 34	82 49	1903. 6	0 28.9 W	-- ----	----	0 32 W	-- --	----	CS.4
Marion	40 34	83 07	1900. 5	0 32.7 W	71 40.9	.1922	0 44 W	71 46	.1908	CS.d2
Celina	40 34	84 34	1903. 5	0 36.3 E	71 36.3	.1938	0 34 E	71 38	.1934	CS.4
Carrollton	40 36	81 05	1904. 7	1 50.2 W	71 42.2	.1899	1 52 W	71 42	.1898	CS.5
Wapakoneta	40 36	84 11	1903. 5	0 14.6 W	71 35.8	.1930	0 17 W	71 37	.1926	CS.4
Kenton	40 40	83 38	1903. 6	1 02.2 E	71 49.7	.1912	1 00 E	71 51	.1908	CS.4
Lima	40 45	84 02	1903. 5	0 25.8 W	71 42.9	.1921	0 29 W	71 44	.1917	CS.4
Lisbon	40 47	80 45	1904. 7	3 00.0 W	72 07.1	.1873	3 01 W	72 07	.1872	CS.5
Ashland	40 48	82 20	1900. 6	0 59.5 W	72 13.0	.1881	1 10 W	72 15	.1868	CS.d2
Canton	40 49	81 24	1904. 7	2 12.4 W	72 06.3	.1883	2 13 W	72 07	.1882	CS.5
Wooster	40 49	81 56	1904. 7	1 33.3 W	71 51.0	.1915	1 34 W	71 51	.1914	CS.5
Bucyrus	40 49	82 59	1903. 6	0 32.6 W	72 15.5	.1871	0 36 W	72 17	.1867	CS.4
Forest	40 49	83 35	1903. 6	0 19.1 E	71 59.8	.1897	0 16 E	72 01	.1892	CS.4
Do.	40 50	83 28	1874. 6	2 18.3 E	72 20.7	.1894	0 25 E	71 56	.1883	NA.d1
Upper Sandusky	40 51	83 18	1903. 6	0 28.0 W	72 14.7	.1878	0 31 W	72 16	.1874	CS.4

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

OHIO—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Mansfield	40 53	82 29	1903.8	1 48.8 W	72 01.1	.1886	1 52 W	72 02	.1883	CS.4
Van Wert	40 54	84 35	1903.5	0 01.7 W	71 49.0	.1914	0 04 W	71 50	.1912	CS.4
Ottawa	41 01	84 02	1903.5	0 26.0 W	71 53.3	.1899	0 29 W	71 54	.1895	CS.4
Findlay	41 03	83 41	1903.6	0 01.0 E	72 06.3	.1885	0 03 W	72 07	.1881	CS.4
Youngstown	41 04	80 40	1907.5	3 09.4 W	72 22.5	.1842	3 03 W	72 20	.1851	CS.7
Akron	41 05	81 33	1900.6	2 23.7 W	72 07.6	.1875	2 34 W	72 10	.1862	CS.d2
Tiffin	41 06	83 11	1903.7	0 55.6 W	72 07.5	.1874	0 58 W	72 08	.1870	CS.4
Medina	41 10	81 51	1903.8	2 42.8 W	72 12.2	.1867	2 46 W	72 13	.1863	CS.4
Paulding	41 12	84 32	1903.5	0 01.7 E	72 03.4	.1899	0 01 W	72 04	.1896	CS.4
Ravenna	41 14	81 15	1903.8	2 21.0 W	72 26.0	.1842	2 24 W	72 27	.1838	CS.4
Do.	41 14	81 15	1903.8	2 17.6 W	72 27.5	.1843	2 20 W	72 28	.1839	CS.4
Warren	41 15	80 50	1900.6	2 12.1 W	72 27.8	.1838	2 23 W	72 30	.1828	CS.d2
Norwalk	41 15	82 38	1903.7	1 06.2 W	72 31.9	.1846	1 09 W	72 32	.1842	CS.4
Oberlin	41 18	82 16	1903.7	1 59.9 W	72 14.2	.1880	2 03 W	72 15	.1876	CS.4
Defiance	41 19	84 24	1903.6	0 08.2 W	72 09.8	.1890	0 10 W	72 10	.1886	CS.4
Bowling Green	41 21	83 38	1903.6	0 24.9 W	72 13.9	.1892	0 28 W	72 14	.1888	CS.4
Elyria	41 22	82 10	1903.7	2 08.5 W	72 27.7	.1862	2 12 W	72 28	.1858	CS.4
Fremont	41 23	83 06	1903.7	1 00.8 W	72 18.9	.1866	1 04 W	72 19	.1862	CS.4
Berea	41 24	81 51	1903.7	2 31.4 W	72 20.8	.1869	2 34 W	72 21	.1865	CS.4
Napoleon	41 26	84 10	1903.6	0 45.2 W	72 11.2	.1883	0 48 W	72 12	.1879	CS.4
Lorain	41 28	82 11	1903.7	2 15.0 W	-- ----	----	2 18 W	-- --	----	LS.3E
Cleveland (new)	41 28	81 33	1907.5	3 32.7 W	72 27.0	.1846	3 27 W	72 25	.1855	CS.7
Cleveland	41 30	81 42	1900.6	3 08.5 W	72 29.6	.1850	3 19 W	72 31	.1838	CS.d2
Bryan	41 30	84 34	1903.6	0 27.0 W	72 15.4	.1883	0 29 W	72 16	.1879	CS.4
Sandusky	41 31	82 43	1903.7	0 55.8 W	72 36.9	.1840	0 58 W	72 37	.1836	CS.4
Port Clinton	41 31	82 56	1903.7	1 14.8 W	-- ----	----	1 18 W	-- --	----	LS.3E
Do.	41 32	82 58	1903.7	1 05.7 W	72 30.0	.1849	1 08 W	72 30	.1845	CS.4
Maumee	41 34	83 39	1903.6	0 44.3 W	72 21.8	.1866	0 48 W	72 22	.1862	CS.4
Wauseon	41 36	84 10	1903.6	1 05.4 W	72 24.2	.1872	1 08 W	72 25	.1868	CS.4
Chardon	41 37	81 11	1903.9	3 21.6 W	72 31.0	.1842	3 24 W	72 31	.1838	CS.4
Kelleys Island	41 38	82 44	1903.7	0 53.8 W	72 28.6	.1860	0 56 W	72 29	.1856	CS.4
Put in Bay	41 41	82 51	1903.7	0 50.4 W	72 39.1	.1836	0 53 W	72 39	.1832	CS.4
Toledo	41 42	83 27	1901.7	1 08.1 W	-- ----	----	1 15 W	-- --	----	LS.3E
Do.	41 42	83 24	1907.5	1 10.9 W	72 46.5	.1818	1 06 W	72 44	.1827	CS.7
Jefferson	41 44	80 48	1900.6	3 03.9 W	72 36.0	.1850	3 15 W	72 38	.1843	CS.d2
Fairport	41 46	81 16	1903.7	3 44.6 W	-- ----	----	3 48 W	-- --	----	LS.3E
Conneaut	41 58	80 33	1903.7	4 30.7 W	-- ----	----	4 34 W	-- --	----	LS.3E

OKLAHOMA

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Ardmore	34 10	97 09	1905.9	9 08.8 E	63 37.0	.2559	9 06 E	63 35	.2563	CS.6
Antlers	34 15	95 38	1905.9	8 01.5 E	63 58.9	.2537	7 59 E	63 57	.2541	CS.6
Atoka (new)	34 23	96 09	1905.9	8 28.2 E	64 01.2	.2541	8 26 E	63 59	.2544	CS.6
Atoka, old	34 24	96 09	1905.9	8 24.1 E	64 04.2	.2535	8 22 E	64 02	.2539	CS.6
Lawton	34 37	98 24	1905.0	9 44.9 E	63 57.3	.2538	9 45 E	63 57	.2538	CS.5
Pauls Valley	34 45	97 14	1905.9	9 14.8 E	64 15.1	.2528	9 12 E	64 13	.2532	CS.6
Talihiva	34 46	95 03	1905.9	8 17.7 E	64 33.2	.2507	8 15 E	64 31	.2512	CS.6
Mangum	34 52	99 31	1905.0	10 26.1 E	63 37.7	.2566	10 26 E	63 38	.2566	CS.5
South McAlester	34 58	95 49	1905.9	8 35.2 E	64 49.3	.2486	8 33 E	64 48	.2490	CS.6
Poteau	35 03	94 38	1905.9	8 01.9 E	65 01.8	.2468	7 59 E	65 00	.2472	CS.6
Anadarko	35 04	98 17	1905.0	9 57.2 E	64 18.7	.2521	9 57 E	64 19	.2521	CS.5
Wewoka	35 08	96 31	1905.9	8 49.7 E	64 51.6	.2478	8 47 E	64 50	.2482	CS.6
Eufaula	35 16	95 33	1878.5	9 10.3 E	-- ----	----	8 19 E	-- --	----	CS.d
Tecumseh	35 16	96 57	1905.8	8 55.7 E	65 11.6	.2453	8 53 E	65 10	.2457	CS.6
Carson	35 16	97 58	1906.9	9 57.3 E	64 51.9	.2469	9 53 E	64 48	.2477	CS.7
Cordell	35 18	99 01	1905.0	10 10.3 E	64 31.1	.2498	10 10 E	64 31	.2498	CS.5
Oklahoma	35 30	97 34	1905.0	9 33.4 E	65 05.7	.2458	9 33 E	65 06	.2458	CS.5
Cheyenne	35 37	99 40	1900.9	10 34.9 E	64 38.4	.2491	10 44 E	64 46	.2476	CS.d2
Okmulgee	35 38	95 56	1904.9	8 42.6 E	65 30.9	.2424	8 43 E	65 31	.2424	CS.5
Chandler	35 42	96 52	1905.1	9 23.0 E	65 37.0	.2403	9 23 E	65 37	.2403	CS.5
Watonga	35 51	98 24	1904.9	10 01.6 E	65 28.0	.2439	10 02 E	65 28	.2439	CS.5
Guthrie	35 53	97 25	1906.8	9 37.5 E	65 40.0	.2414	9 33 E	65 37	.2421	CS.7
Tahlequah	35 55	95 00	1904.9	8 26.4 E	65 52.5	.2397	8 27 E	65 53	.2396	CS.5
Wagoner	35 58	95 23	1904.8	8 12.3 E	65 53.5	.2404	8 13 E	65 54	.2403	CS.5
Sapulpa	36 00	96 07	1904.9	9 11.0 E	65 47.6	.2416	9 11 E	65 48	.2415	CS.5

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

OKLAHOMA—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Perry	36 16	97 20	1901.6	9 12.9 E	65 42.5	----	9 22 E	65 49	----	CS. d2
Claremore	36 19	95 38	1904.8	8 34.8 E	66 09.3	.2381	8 35 E	66 09	.2381	CS. 5
Enid	36 24	97 55	1904.9	9 51.2 E	65 49.4	.2413	9 52 E	65 50	.2412	CS. 5
Woodward	36 27	99 23	1900.9	10 52.5 E	65 45.0	.2410	11 02 E	65 52	.2397	CS. d2
Vinita	36 39	95 09	1904.8	8 21.7 E	66 38.3	.2356	8 22 E	66 39	.2355	CS. 5
Pawhuska	36 40	96 22	1904.9	9 01.0 E	66 28.3	.2366	9 01 E	66 28	.2366	CS. 5
Pond Creek	36 40	97 48	1906.8	10 08.7 E	66 16.7	.2374	10 05 E	66 14	.2380	CS. 7
Guymon	36 43	101 30	1902.7	11 42.9 E	65 28.6	.2426	11 50 E	65 33	.2419	CS. 3
Alva	36 48	98 41	1904.9	10 35.2 E	66 14.1	.2387	10 36 E	66 14	.2387	CS. 5
Beaver	36 49	100 30	1900.9	10 58.6 E	65 45.1	.2404	11 09 E	65 52	.2393	CS. d2
Newkirk	36 54	97 04	1904.9	9 22.0 E	66 31.6	.2346	9 22 E	66 32	.2346	CS. 5

OREGON

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
McDermitt	42 00	117 46	1906.7	18 54.6 E	67 00.3	.2249	18 49 E	66 59	.2250	CS.7
Denio	42 00	118 40	1906.7	18 50.2 E	66 47.6	.2265	18 44 E	66 47	.2267	CS.7
Lakeview	42 11	120 21	1906.8	20 48.0 E	66 18.9	.2286	20 41 E	66 19	.2287	CS.7
Klamath Falls	42 13	121 46	1906.8	19 45.4 E	66 08.6	.2289	19 39 E	66 09	.2290	CS.7
Jacksonville	42 18	122 57	1906.4	19 59.6 E	65 59.5	.2291	19 54 E	66 00	.2292	CS.6
Bly	42 23	121 02	1906.8	21 06.4 E	66 38.9	.2268	21 00 E	66 39	.2270	CS.7
Plush	42 26	119 54	1906.8	20 51.7 E	67 05.2	.2251	20 45 E	67 05	.2252	CS.7
Andrews	42 27	118 38	1906.7	20 47.6 E	66 42.6	.2268	20 42 E	66 42	.2270	CS.7
Paisley	42 42	120 38	1906.8	21 05.0 E	67 06.6	.2218	20 58 E	67 07	.2220	CS.7
Fort Klamath	42 42	121 59	1906.8	20 17.0 E	66 21.6	.2263	20 10 E	66 22	.2265	CS.7
Ewing Harbor	42 44	124 30	1851.9	18 29.7 E	-- ----	----	20 17 E	-- --	----	CS.d
Canyonville	42 54	123 18	1881.6	17 48.5 E	65 57.9	----	18 34 E	65 41	----	CS.d1
Diamond	43 00	118 42	1906.7	18 31.8 E	68 38.0	.2115	18 26 E	68 38	.2117	CS.7
Silver Lake	43 07	121 07	1906.9	20 01.0 E	67 10.7	.2220	19 54 E	67 11	.2222	CS.7
Loggie	43 21	124 10	1889.7	20 35 E	-- ----	----	21 13 E	-- --	----	CS.d
Ross	43 21	124 11	1889.7	20 31 E	-- ----	----	21 09 E	-- --	----	CS.d
Fossil 2	43 21	124 19	1889.9	20 16 E	-- ----	----	20 54 E	-- --	----	CS.d
Coos River	43 22	124 10	1889.7	20 06 E	-- ----	----	20 44 E	-- --	----	CS.d
White Point 2	43 22	124 12	1889.8	19 07 E	-- ----	----	19 45 E	-- --	----	CS.d
Marshfield Hill	43 22	124 14	1889.8	18 06 E	-- ----	----	18 44 E	-- --	----	CS.d
Pigeon 2	43 22	124 19	1889.9	20 06 E	-- ----	----	20 44 E	-- --	----	CS.d
North Spit	43 22	124 20	1889.9	20 11 E	-- ----	----	20 49 E	-- --	----	CS.d
Crawford 2	43 23	124 12	1889.7	19 21 E	-- ----	----	19 59 E	-- --	----	CS.d
Pierce	43 24	124 12	1889.7	17 28 E	-- ----	----	18 06 E	-- --	----	CS.d
Cemetery	43 24	124 17	1889.9	20 03 E	-- ----	----	20 41 E	-- --	----	CS.d
Empire 2	43 24	124 17	1889.9	20 01 E	-- ----	----	20 39 E	-- --	----	CS.d
Pest	43 24	124 18	1889.9	20 06 E	-- ----	----	20 44 E	-- --	----	CS.d
Simpson	43 25	124 14	1889.8	19 11 E	-- ----	----	19 49 E	-- --	----	CS.d
North Bend 2	43 25	124 14	1889.7	18 44 E	-- ----	----	19 22 E	-- --	----	CS.d
Pony	43 25	124 16	1889.8	19 45 E	-- ----	----	20 23 E	-- --	----	CS.d
Hutchinson 2	43 25	124 17	1889.9	19 59 E	-- ----	----	20 37 E	-- --	----	CS.d
Mabry	43 26	124 13	1889.7	18 33 E	-- ----	----	19 11 E	-- --	----	CS.d
North Slough	43 26	124 15	1889.8	19 37 E	-- ----	----	20 15 E	-- --	----	CS.d
Oakland	43 26	123 18	1881.6	19 41.2 E	66 59.4	----	20 27 E	66 42	----	CS.d1
Burns	43 35	119 04	1906.7	20 58.5 E	68 09.1	.2177	20 52 E	68 09	.2178	CS.7
Rosland	43 42	121 35	1906.9	21 29.0 E	67 20.6	.2197	21 22 E	67 21	.2198	CS.7
Ten-mile Knoll	43 53	124 09	1887.5	20 52 E	-- ----	----	21 31 E	-- --	----	CS.d
Cannery Hill	44 00	124 07	1887.5	21 24 E	-- ----	----	22 02 E	-- --	----	CS.d
Eugene	44 03	123 04	1906.4	22 13.5 E	67 37.8	.2186	22 08 E	67 38	.2187	CS.6
Paulina	44 08	119 54	1906.6	21 45.2 E	68 20.7	.2149	21 39 E	68 21	.2149	CS.7
Sisters	44 17	121 34	1906.6	20 40.8 E	67 58.6	.2115	20 35 E	67 59	.2116	CS.7
Prineville	44 19	120 52	1906.6	21 12.5 E	68 38.6	.2111	21 07 E	68 39	.2112	CS.7
Canyon City	44 23	118 58	1906.6	19 42.9 E	68 34.9	.2176	19 37 E	68 35	.2176	CS.7
Mary Peak	44 31	123 29	1877.8	20 51.7 E	-- ----	----	21 40 E	-- --	----	CS.d
Mitchell	44 32	120 09	1906.6	21 23.2 E	68 30.2	.2126	21 17 E	68 31	.2126	CS.7
Yaquina	44 36	124 01	1906.5	21 13.8 E	67 49.8	.2156	21 08 E	67 50	.2156	CS.6
Albany	44 39	123 02	1881.6	21 42.0 E	68 08.5	.2174	22 26 E	67 52	.2153	CS.d1
Yaquina Point L. H.	44 40	124 04	1885.3	20 50.6 E	-- ----	----	21 31 E	-- --	----	CS.d
Detroit	44 43	122 08	1906.5	21 14.6 E	68 12.8	.2125	21 09 E	68 13	.2125	CS.6
Sumpter	44 45	118 13	1905.6	20 46.6 E	69 11.8	.2084	20 44 E	69 12	.2085	CS.6
Baker	44 48	117 50	1905.6	20 53.4 E	69 13.4	.2081	20 51 E	69 13	.2081	CS.6

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

OREGON—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Salem	44 56	122 58	1881.6	19 58.0 E	68 13.3	.2168	20 42 E	67 56	.2147	CS.d1
Shaniko	45 00	120 44	1906.5	21 23.4 E	69 43.2	.2025	21 18 E	69 43	.2025	CS.7
McMinnville	45 11	123.13	1906.5	21 45.4 E	68 24.8	.2132	21 40 E	68 25	.2132	CS.6
Union	45 12	117 53	1905.6	20 52.2 E	69 41.1	.2057	20 50 E	69 41	.2057	CS.6
Alba	45 12	118 55	1906.6	21 14.5 E	69 34.8	.2041	21 09 E	69 35	.2042	CS.7
Condon	45 14	120 11	1906.5	20 28.4 E	69 31.9	.2056	20 23 E	69 32	.2056	CS.7
Tygh Valley	45 14	121 03	1906.5	21 09.4 E	68 49.6	.2105	21 04 E	68 50	.2105	CS.7
Estacada	45 16	122 23	1906.5	21 52.6 E	68 42.1	.2128	21 47 E	68 42	.2128	CS.6
Heppner	45 20	119 33	1906.6	21 53.6 E	69 40.9	.2009	21 48 E	69 41	.2009	CS.7
Moro	45 29	120 41	1906.5	21 54.4 E	69 12.0	.2064	21 49 E	69 12	.2065	CS.7
Portland, Custom H.	45 31	122 41	1895.2	22 24.5 E	69 31.5	.2043	22 54 E	69 26	.2042	CS.d1
Portland	45 31	122 42	1905.6	22 43.9 E	68 39.0	.2175	22 42 E	68 39	.2175	CS.6
Elgin	45 33	117 56	1905.6	21 18.9 E	70 00.9	.2028	21 17 E	70 01	.2028	CS.6
Three-mile Creek	45 35	121 09	1906.5	22 25.0 E	69 28.5	.2060	22 20 E	69 29	.2060	CS.7
Do.	45 35	121 09	1881.8	21 02.8 E	-- ----	.2062	21 48 E	-- --	.2043	CS.d1
The Dalles	45 35	121 13	1860.4	20 37 E	69 41.8	.2104	22 03 E	69 32	.2053	CS.d1†
Do.	45 35	121 13	1906.5	22 03.8 E	69 22.5	.2046	21 59 E	69 23	.2046	CS.7
Pendleton	45 40	118 47	1906.6	21 51.2 E	69 23.3	.2079	21 46 E	69 23	.2079	CS.7
Blalock	45 44	120 22	1881.8	20 21.2 E	-- ----	.2073	21 00 E	-- --	.2054	CS.d1
St. Helen	45 52	122 48	1881.6	19 08.0 E	70 54.1	.2006	19 55 E	70 40	.1989	CS.d1
Umatilla	45 55	119 20	1906.6	21 45.5 E	69 58.7	.2023	21 40 E	69 59	.2023	CS.7
Do.	45 57	119 20	1881.8	21 32.2 E	70 10.2	.2038	22 11 E	70 04	.2020	CS.d1
Rainier	46 05	122 56	1886.5	23 45.0 E	-- ----	.1994	24 27 E	-- --	.1988	CS.d1
Astoria	46 12	123 50	1881.6	22 26.4 E	69 13.4	.2079	23 15 E	68 59	.2065	CS.d1

PENNSYLVANIA

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Mason & Dixon Line	39 43	79 29	1894.8	3 47.5 W	70 55.0	.1995	4 10 W	70 57	.1979	CS.d2
Gettysburg	39 52	77 14	1901.8	4 53.4 W	71 00.4	.1959	5 04 W	71 01	.1951	CS.d2
Uniontown	39 54	79 43	1901.9	3 39.1 W	71 13.9	.1956	3 48 W	71 16	.1946	CS.d2
Waynesburg	39 54	80 10	1902.5	3 05.5 W	71 11.5	.1973	3 13 W	71 13	.1965	CS.3
Westchester	39 55	75 35	1901.8	7 23.2 W	71 07.3	.1944	7 34 W	71 08	.1937	CS.d2
Chambersburg	39 56	77 39	1900.4	4 42.9 W	71 12.6	.1948	4 58 W	71 14	.1940	CS.d2
Philadelphia	39 57	75 12	1905.8	7 45.0 W	71 03.7	.1936	7 42 W	71 04	.1938	CS.6
Yard	39 58	75 23	1854.8	6 42.3 W	73 01.2	.1787	9 50 W	72 03	.1814	CS.d1
York	39 59	76 45	1901.8	6 17.9 W	71 16.1	.1933	6 29 W	71 16	.1929	CS.d2
Bedford	40 00	78 31	1902.6	4 30.0 W	71 14.8	.1948	4 37 W	71 16	.1944	CS.3
Johnson Tavern	40 00	79 48	1862.6	1 13.6 W	71 57.0	.1920	4 00 W	71 04	.1940	CS.d1
Somerset	40 01	79 05	1902.6	4 36.4 W	71 16.7	.1951	4 44 W	71 18	.1945	CS.3.
Lancaster	40 03	76 18	1901.7	6 16.2 W	71 08.0	.1936	6 27 W	71 09	.1928	CS.d2
Fannettsburg	40 03	77 48	1900.4	4 59.7 W	71 18.5	.1943	5 15 W	71 20	.1935	CS.d2
Greenfield	40 06	79 52	1874.6	2 02.2 W	71 58.9	.1930	3 44 W	71 20	.1925	NA.d1
Bristol, Vanuxem	40 07	74 53	1846.5	4 27.8 W	72 22.3	.1875	7 52 W	71 23	.1891	CS.d1
Hatsboro	40 11	75 05	1900.5	7 26.2 W	71 28.7	.1918	7 42 W	71 29	.1910	CS.d2
Washington	40 11	80 16	1901.9	3 22.8 W	71 46.7	.1916	3 31 W	71 48	.1905	CS.d2
Carlisle	40 13	77 12	1901.8	5 19.7 W	71 39.0	.1919	5 30 W	71 40	.1913	CS.d2
Harrisburg (new)	40 15	76 53	1907.4	6 40.7 W	71 43.9	.1893	6 34 W	71 43	.1897	CS.7
Harrisburg	40 16	76 53	1901.8	6 25.0 W	71 40.0	.1902	6 36 W	71 41	.1897	CS.d2
Doylestown	40 17	75 10	1905.8	7 19.5 W	71 33.4	.1906	7 17 W	71 33	.1906	CS.6
Greensburg	40 17	79 34	1901.8	4 06.4 W	71 36.8	.1913	4 16 W	71 38	.1904	CS.d2
Reading	40 18	75 56	1900.5	5 26.0 W	71 42.6	.1900	5 41 W	71 43	.1891	CS.d2
Lebanon	40 21	76 25	1901.8	6 34.7 W	71 30.9	.1908	6 46 W	71 31	.1903	CS.d2
Andersonburg	40 21	77 27	1900.5	4 36.0 W	71 35.3	.1915	4 52 W	71 36	.1908	CS.d2
Newport	40 27	77 07	1900.5	6 02.8 W	71 55.1	.1880	6 18 W	71 56	.1873	CS.d2
Huntingdon	40 29	78 01	1900.5	5 29.0 W	71 35.9	.1920	5 44 W	71 38	.1912	CS.d2
Ebensburg	40 29	78 44	1901.8	4 27.3 W	71 44.5	.1891	4 38 W	71 46	.1886	CS.d2
Allegheny	40 29	80 01	1907.4	4 08.9 W	72 04.4	.1868	4 03 W	72 02	.1877	CS.7
Allegheny (new)	40 29	80 01	1907.4	4 09.0 W	72 09.2	----	4 03 W	72 07	----	CS.7
Altoona	40 31	78 23	1900.5	5 06.4 W	71 44.3	.1917	5 21 W	71 46	.1910	CS.d2
Allentown	40 36	75 30	1902.7	6 20.7 W	72 19.2	.1845	6 28 W	72 19	.1842	CS.3
Lewistown	40 36	77 34	1900.5	5 19.7 W	71 52.7	.1887	5 34 W	71 54	.1880	CS.d2
South Bethlehem	40 37	75 23	1874.5	5 19.5 W	73 38.9	.1770	7 08 W	72 56	.1780	CS.d1
Economy	40 37	80 16	1840.6	- ----	72 35.0	.1848	- --	71 56	.1888	CS.1
Indiana	40 39	79 12	1901.9	4 02.0 W	71 52.6	.1895	4 11 W	71 54	.1887	CS.d2

† Boundary Survey; R. W. Haig, observer; Phil. Trans. R. S. 1864.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

PENNSYLVANIA—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Pottsville	40 41	76 12	1900.5	6 48.0 W	71 51.5	.1877	7 03 W	71 52	.1870	CS.d2
Easton	40 42	75 16	1902.7	7 11.0 W	71 52.9	.1886	7 19 W	71 53	.1882	CS.3
Beaver	40 44	80 19	1874.6	1 08.2 W	72 31.5	.1870	2 58 W	71 58	.1866	NA.d1
Westover	40 45	78 44	1902.8	4 37.7 W	72 00.6	.1882	4 45 W	72 01	.1878	CS.3
Middleburg	40 48	77 03	1901.8	6 05.8 W	72 01.2	.1869	6 16 W	72 02	.1864	CS.d2
Ingleby	40 49	77 26	1900.5	6 10.0 W	71 53.3	.1888	6 24 W	71 53	.1881	CS.d2
Kittanning	40 49	79 31	1902.5	3 27.6 W	72 11.8	.1854	3 35 W	72 13	.1847	CS.3
East Mauch Chunk	40 52	75 45	1902.8	7 03.0 W	72 16.5	.1839	7 10 W	72 17	.1835	CS.3
Butler	40 53	79 56	1902.5	4 04.2 W	71 56.6	.1886	4 11 W	71 58	.1879	CS.3
Bellefonte	40 55	77 47	1901.8	5 53.8 W	72 01.0	.1881	6 04 W	72 01	.1876	CS.d2
Lewisburg	40 57	76 53	1900.5	6 15.1 W	72 03.0	.1868	6 30 W	72 03	.1861	CS.d2
Danville	40 58	76 37	1902,8	6 48.0 W	72 11.4	.1856	6 55 W	72 12	.1853	CS.3
East Stroudsburg	40 59	75 11	1902.7	7 18.4 W	72 39.8	.1812	7 25 W	72 40	.1809	CS.3
Curwensville	40 59	78 33	1902.8	5 12.5 W	72 11.6	.1864	5 20 W	72 12	.1861	CS.3
Bloomsburg	41 00	76 27	1902.8	6 57.8 W	72 09.6	.1855	7 06 W	72 10	.1851	CS.3
Newcastle	41 01	80 21	1902.9	2 55.4 W	72 09.3	.1864	3 02 W	72 10	.1856	CS.3
Clearfield	41 03	78 26	1901.8	4 54.7 W	72 12.1	.1863	5 05 W	72 13	.1858	CS.d2
Bushkill	41 07	75 00	1841.5	- ----	73 31.4	.1783	- --	72 35	.1805	CS.1
Lockhaven	41 09	77 26	1901.8	6 24.0 W	72 07.2	.1866	6 35 W	72 08	.1861	CS.d2
Brookville	41 10	79 06	1902.8	4 11.5 W	72 23.5	.1848	4 18 W	72 24	.1844	CS.3
Clarion	41 12	79 24	1902.8	3 40.8 W	72 22.6	.1845	3 47 W	72 23	.1840	CS.3
Wilkes-Barre	41 13	75 54	1902.8	7 24.0 W	72 17.9	.1839	7 32 W	72 18	.1836	CS.3
Mercer	41 13	80 14	1902.9	2 59.8 W	72 16.8	.1860	3 06 W	72 17	.1853	CS.3
Williamsport	41 14	77 02	1901.8	6 48.4 W	72 05.5	.1870	7 00 W	72 06	.1865	CS.d2
Keating	41 16	77 57	1902.8	5 46.7 W	72 30.9	.1836	5 54 W	72 31	.1833	CS.3
Sharpsville	41 17	80 27	1874.6	1 00.0 W	72 50.7	.1845	2 57 W	72 17	.1857	NA.d1
Milford	41 19	74 48	1902.7	7 57.0 W	73 00.0	.1784	8 06 W	73 00	.1781	CS.3
Scranton	41 24	75 39	1902.7	7 55.9 W	72 26.6	.1825	8 03 W	72 27	.1824	CS.3
Rocky Grove	41 24	79 50	1902.9	4 09.4 W	72 40.9	.1835	4 16 W	72 42	.1829	CS.3
Ridgway	41 25	78 48	1902.8	5 40.3 W	72 34.4	.1832	5 48 W	72 35	.1828	CS.3
Satterfield	41 29	76 24	1902.8	7 31.3 W	72 26.9	.1837	7 40 W	72 27	.1836	CS.3
Slate Run	41 29	77 32	1902.8	5 44.3 W	72 39.6	.1820	5 52 W	72 40	.1817	CS.3
Tionesta	41 30	79 27	1902.9	4 48.1 W	72 32.0	.1836	4 54 W	72 33	.1832	CS.3
East Emporium	41 31	78 14	1902.8	4 59.8 W	72 46.5	.1806	5 08 W	72 47	.1802	CS.3
Tunkhannock	41 32	76 00	1902.8	7 51.6 W	72 37.2	.1814	8 00 W	72 38	.1813	CS.3
Honesdale	41 35	75 15	1902.7	8 29.6 W	72 37.6	.1809	8 36 W	72 38	.1809	CS.3
Penbryn	41 35	76 54	1902.8	6 52.9 W	72 35.2	.1834	7 01 W	72 36	.1833	CS.3
Elulalia	41 35	79 00	1902.8	3 45.6 W	73 00.1	.1794	3 52 W	73 01	.1790	CS.3
Meadville	41 37	80 07	1902.9	4 05.2 W	72 39.4	.1830	4 12 W	72 40	.1826	CS.3
Wellsboro	41 46	77 18	1902.8	5 52.4 W	72 56.6	.1792	6 00 W	72 57	.1791	CS.3
Towanda	41 47	76 32	1902.8	7 45.4 W	72 49.4	.1804	7 53 W	72 50	.1803	CS.3
Coudersport	41 47	78 02	1902.8	5 35.8 W	72 49.6	.1804	5 44 W	72 50	.1801	CS.3
Smethport	41 48	78 29	1902.8	5 47.2 W	72 55.8	.1799	5 55 W	72 56	.1796	CS.3
Montrose	41 50	75 53	1902.8	8 23.0 W	72 45.9	.1801	8 30 W	72 46	.1800	CS.3
Warren	41 50	79 09	1902.8	4 34.4 W	72 45.7	.1810	4 41 W	72 46	.1807	CS.3
Silver Lake	41 56	75 57	1902.8	8 18.4 W	72 54.9	.1790	8 27 W	72 55	.1789	CS.3
Erie	42 09	80 05	1885.7	3 08.2 W	73 24.3	.1762	4 18 W	73 06	.1776	CS.d1
Do.	42 09	80 05	1903.7	4 24.4 W	-- ----	----	4 27 W	-- --	----	LS.3E

RHODE ISLAND

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Watch Hill	41 19	71 51	1847.7	7 33.4 W	-- ----	----	10 56 W	-- --	----	CS.d
Point Judith	41 22	71 29	1847.7	8 59.7 W	73 45.1	.1746	12 15 W	72 27	.1827	CS.d1
Boston Neck	41 27	71 26	1899.6	11 38.4 W	72 47.5	.1769	11 58 W	72 40	.1772	CS.d2
Kingston	41 29	71 32	1904.7	11 40.0 W	72 37.7	.1786	11 40 W	72 37	.1786	CS.5
Newport	41 30	71 20	1906.6	12 20.9 W	72 40.7	.1780	12 16 W	72 43	.1779	CS.7
McSparran	41 30	71 27	1899.7	11 51.6 W	72 36.6	.1764	12 11 W	72 30	.1767	CS.d2
Bristol	41 39	71 16	1904.6	12 09.7 W	72 48.6	.1776	12 11 W	72 48	.1776	CS.5
East Greenwich	41 40	71 27	1904.6	12 18.1 W	72 42.9	.1773	12 20 W	72 42	.1773	CS.5
Spencer	41 41	71 30	1844.6	9 05.9 W	75 07.1	----	12 30 W	73 50	----	CS.d1
Providence	41 46	71 28	1904.6	12 06.5 W	72 46.6	.1770	12 08 W	72 46	.1770	CS.5
Beaconpole	42 00	71 27	1844.8	9 27.0 W	74 21.9	----	12 53 W	73 02	----	CS.d1

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

SOUTH CAROLINA

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c.g.s.*	° ′	° ′	*c.g.s.*	
Graham, Hilton Head I.	32 13	80 46	1870.2	1 55.5 E	63 28.1	.2604	0 02 W	63 15	.2535	CS.d1
Port Royal	32 18	80 38	1859.1	3 04.1 E	64 07.5	----	0 25 E	63 48	----	CS.d1
Woods	32 23	80 41	1902.3	0 26.5 E	63 37.8	.2522	0 23 E	63 43	.2513	CS.d2
Beaufort	32 26	80 41	1904.1	0 23.1 E	63 39.2	.2519	0 22 E	63 41	.2515	CS.4
Bay Point	32 30	80 20	1902.2	1 38.3 W	64 12.9	.2495	1 42 W	64 18	.2484	CS.d2
Edisto I., east base	32 33	80 14	1850.3	2 53.6 E	64 04.1	.2593	0 10 W	63 38	.2497	CS.d1
Charleston	32 46	79 49	1902.3	0 32.9 W	64 08.3	.2496	0 38 W	64 13	.2487	CS.d2
Hampton	32 53	81 07	1903.4	0 35.3 E	64 18.0	.2488	0 34 E	64 21	.2482	CS.3
Walterboro	32 54	80 40	1904.1	0 19.3 E	64 32.9	.2458	0 18 E	64 35	.2455	CS.4
Live Oak	33 03	79 31	1902.3	0 30.6 W	64 25.1	.2468	0 36 W	64 29	.2459	CS.d2
Moncks Corner	33 11	80 01	1904.1	0 34.2 W	64 38.4	.2447	0 36 W	64 40	.2444	CS.4
St. George	33 11	80 34	1904.1	0 00.2 W	64 30.4	.2459	0 02 W	64 32	.2456	CS.4
Barnwell	33 15	81 23	1904.1	1 32.9 E	65 13.2	.2395	1 32 E	65 15	.2392	CS.4
Bamberg	33 17	81 02	1904.1	0 17.5 E	65 04.2	.2411	0 16 E	65 06	.2408	CS.4
Allston	33 22	79 17	1854.0	2 06.5 E	65 29.5	.2508	0 57 W	64 59	.2440	CS.d1
Georgetown	33 23	79 17	1904.1	0 50.9 W	65 03.3	.2420	0 53 W	65 05	.2417	CS.4
Orangeburg	33 31	80 51	1903.4	0 12.7 E	65 06.9	.2417	0 10 E	65 10	.2412	CS.3
Aiken	33 34	81 43	1904.1	0 33.7 E	65 13.1	.2407	0 32 E	65 15	.2404	CS.4
Kingstree	33 40	79 49	1904.1	0 36.5 W	65 35.2	.2386	0 38 W	65 37	.2383	CS.4
Manning	33 43	80 13	1904.1	0 22.9 W	65 22.0	.2410	0 25 W	65 23	.2407	CS.4
Conway	33 51	79 03	1904.1	1 13.7 W	65 33.2	.2378	1 15 W	65 35	.2375	CS.4
Sumter	33 56	80 20	1903.4	0 17.2 W	65 43.2	.2372	0 20 W	65 46	.2367	CS.3
Columbia	34 00	81 02	1905.9	0 00.2 E	65 35.0	.2379	0 02 E	65 34	.2382	CS.6
Marion	34 11	79 24	1904.0	1 09.4 W	66 00.2	.2343	1 11 W	66 02	.2340	CS.4
Florence	34 11	79 45	1903.4	0 36.3 W	65 59.8	.2348	0 39 W	66 02	.2343	CS.3
Greenwood	34 11	82 08	1905.3	0 18.2 E	65 45.5	.2354	0 18 E	65 45	.2355	CS.5
Camden	34 13	80 37	1905.9	0 44.9 W	65 25.0	.2369	0 43 W	65 24	.2372	CS.6
Newberry	34 17	81 37	1905.3	0 37.2 E	65 29.1	.2415	0 38 E	65 29	.2416	CS.5
Darlington	34 19	79 52	1904.0	0 32.7 W	66 10.9	.2341	0 35 W	66 13	.2337	CS.4
Anderson	34 30	82 40	1905.3	0 37.8 E	65 53.7	.2376	0 38 E	65 53	.2377	CS.5
Bennettsville	34 37	79 42	1904.0	1 07.3 W	66 11.5	.2327	1 09 W	66 13	.2323	CS.4
Lancaster	34 42	80 48	1905.9	0 57.0 W	66 19.7	.2320	0 55 W	66 18	.2323	CS.6
Union	34 43	81 36	1905.3	0 01.4 E	65 37.6	.2404	0 02 E	65 38	.2405	CS.5
Walhalla	34 47	83 03	1905.2	0 57.8 E	66 10.4	.2362	0 58 E	66 10	.2363	CS.5
Green	34 49	82 14	1896.9	0 15.9 E	-- ----	----	0 04 W	-- --	----	CS.d
Baker	34 51	82 13	1896.9	0 09.6 E	-- ----	----	0 10 W	-- --	----	CS.d
Pelham	34 52	82 13	1896.9	0 17.7 E	65 54.9	.2378	0 02 W	66 04	.2355	CS.d2
Pickens	34 53	82 42	1905.3	0 15.3 E	66 16.3	.2349	0 16 E	66 16	.2350	CS.5
Geers	34 57	82 13	1896.9	0 06.5 E	65 58.7	.2378	0 13 W	66 08	.2355	CS.d2
Spartanburg	34 58	81 56	1905.3	0 11.4 W	66 18.1	.2340	0 11 W	66 18	.2341	CS.5
Wofford College	34 58	81 56	1896.9	0 04.3 E	66 02.4	.2366	0 15 W	66 11	.2343	CS.d2
Flint Rock	34 59	82 13	1896.9	0 03.2 E	66 00.0	.2377	0 16 W	66 09	.2354	CS.d2
Yorkville	35 00	81 17	1906.0	0 27.3 E	66 37.8	.2289	0 29 E	66 36	.2292	CS.6
Gold Mine	35 02	82 13	1896.9	0 25.8 E	66 17.7	.2356	0 06 E	66 27	.2333	CS.d2
Gowensville	35 07	82 13	1896.9	0 33.4 E	66 13.8	.2361	0 15 E	66 23	.2338	CS.d2
Talent	35 09	82 13	1896.9	0 05.4 E	66 17.0	.2357	0 14 W	66 26	.2334	CS.d2
Block House	35 12	82 13	1896.9	0 16.8 E	66 19.8	.2348	0 02 W	66 29	.2325	CS.d2

SOUTH DAKOTA

	° ′	° ′		° ′	° ′	*c.g.s.*	° ′	° ′	*c.g.s.*	
Yankton	42 52	97 24	1905.5	11 17.2 E	72 53.7	.1819	11 16 E	72 53	.1820	CS.6
Freeman	43 19	97 27	1906.7	10 40.3 E	72 37.8	.1859	10 37 E	72 36	.1861	CS.7
Hot Springs	43 26	103 29	1905.6	15 07.0 E	71 26.2	.1950	15 06 E	71 26	.1951	CS.6
Sioux Falls	43 33	96 44	1900.7	11 24.8 E	72 40.9	.1828	11 32 E	72 44	.1823	CS.d2
Mitchell	43 42	98 01	1896.4	11 40.3 E	73 02.8	.1830	11 46 E	73 08	.1816	CS.d1
Interior	43 43	101 57	1906.7	14 13.9 E	72 01.2	.1904	14 10 E	72 00	.1906	CS.7
Custer	43 47	103 34	1906.7	15 23.0 E	71 42.4	.1924	15 19 E	71 41	.1926	CS.7
Chamberlain	43 49	99 19	1905.5	12 33.6 E	72 29.3	.1868	12 32 E	72 29	.1869	CS.6
Stearns	43 50	101 18	1906.7	13 46.1 E	72 12.8	.1888	13 43 E	72 11	.1890	CS.7
Murdo	43 54	100 43	1906.7	13 33.9 E	72 12.7	.1887	13 30 E	72 11	.1889	CS.7
Presho	43 55	100 04	1906.7	12 50.9 E	72 30.3	.1867	12 48 E	72 29	.1869	CS.7
Creston	43 55	102 40	1906.7	14 43.8 E	72 04.7	.1894	14 40 E	72 03	.1896	CS.7
Howard	44 01	97 32	1906.6	10 51.7 E	73 06.9	.1808	10 48 E	73 06	.1810	CS.7
Rapid City	44 05	103 12	1906.6	15 18.9 E	71 57.6	.1909	15 16 E	71 56	.1911	CS.7

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

SOUTH DAKOTA—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Huron	44 21	98 14	1900.7	11 08.2 E	73 07.5	.1814	11 16 E	73 11	.1809	CS.d2
Pierre (new)	44 22	100 21	1906.7	13 01.9 E	72 58.0	.1824	12 58 E	72 57	.1826	CS.7
Pierre	44 22	100 22	1906.7	13 03.1 E	72 53.6	.1835	13 00 E	72 52	.1837	CS.7
Highmore	44 30	99 26	1906.7	12 25.5 E	73 01.9	.1826	12 22 E	73 01	.1828	CS.7
Vale	44 37	103 23	1906.6	15 57.1 E	72 24.2	.1876	15 54 E	72 23	.1878	CS.7
Belle Fourche	44 41	103 52	1906.7	15 46.6 E	72 20.6	.1867	15 43 E	72 19	.1869	CS.7
Watertown	44 53	97 06	1906.6	10 18.0 E	74 08.7	.1724	10 15 E	74 07	.1726	CS.7
Redfield	44 53	98 31	1900.7	12 58.0 E	74 02.8	.1719	13 06 E	74 06	.1714	CS.d2
Gettysburg	45 02	99 58	1900.7	12 59.8 E	73 26.6	.1775	13 08 E	73 30	.1770	CS.d2
Bixby	45 09	102 34	1906.6	15 12.8 E	73 08.1	.1801	15 09 E	73 07	.1803	CS.7
Chance	45 24	102 17	1906.6	15 49.2 E	73 16.8	.1795	15 46 E	73 16	.1797	CS.7
Harding	45 24	103 50	1906.6	15 50.3 E	73 02.8	.1806	15 46 E	73 02	.1808	CS.7
Roscoe	45 27	99 22	1906.7	12 48.1 E	73 58.9	.1725	12 44 E	73 58	.1727	CS.7
Preacher Hill	45 28	97 06	1906.6	10 59.5 E	74 24.7	.1689	10 57 E	74 23	.1691	CS.7
Aberdeen	45 28	98 29	1896.4	12 17.8 E	74 09.1	.1728	12 24 E	74 12	.1714	CS.d1
Selby	45 31	100 03	1906.7	13 33.9 E	74 08.9	.1715	13 30 E	74 08	.1716	CS.7
Reva	45 32	103 11	1906.6	15 59.0 E	73 20.8	.1784	15 56 E	73 20	.1785	CS.7
Eureka	45 46	99 31	1905.5	13 31.1 E	74 11.4	.1706	13 30 E	74 11	.1707	CS.6
Seim	45 46	102 12	1906.6	15 39.1 E	73 42.9	.1756	15 35 E	73 42	.1758	CS.7

TENNESSEE

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Chattanooga	35 01	85 18	1900.4	1 27.8 E	65 52.1	.2420	1 22 E	65 57	.2406	CS.d2
Jasper	35 05	85 37	1903.9	3 34.7 E	66 10.3	.2368	3 33 E	66 12	.2364	CS.4
Grand Junction	35 05	89 13	1881.7	5 58.9 E	66 00.4	.2429	5 03 E	65 58	.2390	CS.d1
Memphis	35 08	90 04	1905.9	5 29.5 E	65 46.5	.2408	5 28 E	65 45	.2411	CS.6
Benton	35 10	84 39	1903.7	1 41.8 E	65 58.2	.2378	1 40 E	65 59	.2374	CS.4
Cleveland	35 10	84 53	1903.7	1 27.6 E	65 50.9	.2395	1 26 E	65 52	.2391	CS.4
Pulaski	35 13	87 03	1881.6	5 01.5 E	66 06.4	.2421	3 57 E	66 11	.2373	CS.d1
Tullahoma	35 22	86 13	1881.6	3 30.9 E	66 25.5	.2405	2 26 E	66 30	.2368	CS.d1
Dunlap	35 23	85 22	1903.9	2 58.8 E	66 37.1	.2345	2 57 E	66 38	.2342	CS.4
Clifton	35 23	88 01	1865.2	5 48 E	-- ----	----	3 54 E	-- --	----	CS.d
Athens	35 27	84 36	1903.9	0 43.3 E	66 01.7	.2399	0 41 E	66 03	.2395	CS.4
Madisonville	35 30	84 21	1903.7	0 59.2 E	66 12.2	.2367	0 57 E	66 14	.2362	CS.4
Dayton	35 30	85 01	1903.8	2 26.8 E	66 24.7	.2385	2 25 E	66 26	.2382	CS.4
Decatur	35 31	84 48	1903.9	1 40.5 E	66 23.7	.2382	1 39 E	66 25	.2379	CS.4
Brownsville	35 35	89 18	1905.9	4 44.2 E	66 22.0	.2344	4 44 E	66 21	.2347	CS.6
Pikeville	35 36	85 12	1903.9	2 54.4 E	66 50.2	.2322	2 52 E	66 52	.2319	CS.4
Columbia	35 37	87 04	1881.6	4 35.5 E	67 07.5	.2370	3 31 E	67 05	.2333	CS.d1
Jackson	35 39	88 51	1881.7	5 49.8 E	66 05.4	.2431	4 54 E	66 05	.2393	CS.d1
Maryville	35 45	83 58	1903.6	1 02.0 E	66 42.2	.2326	1 00 E	66 44	.2322	CS.4
Loudon	35 45	84 22	1903.9	0 17.1 W	66 21.3	.2400	0 19 W	66 23	.2396	CS.4
Sevierville	35 51	83 33	1903.6	0 28.0 E	66 56.2	.2314	0 26 E	66 58	.2310	CS.4
Kingston	35 52	84 30	1903.8	1 21.9 E	67 16.8	.2311	1 20 E	67 18	.2307	CS.4
Murfreesboro	35 53	86 25	1881.6	4 53.5 E	66 53.3	.2386	3 49 E	66 43	.2350	CS.d1
Waldensia	35 54	84 46	1907.2	0 07.4 E	66 46.1	.2346	0 08 E	66 42	.2355	CS.7
Sparta	35 55	85 26	1907.2	3 37.9 E	67 03.6	.2296	3 39 E	67 00	.2305	CS.7
Knoxville (new)	35 56	83 57	1906.9	0 13.2 W	66 46.2	.2322	0 11 W	66 44	.2327	CS.7
Knoxville	35 57	83 58	1906.6	0 11.0 W	66 50.2	.2318	0 09 W	66 48	.2323	CS.7
Newport	35 57	83 10	1903.6	0 15.8 E	67 04.0	.2304	0 13 E	67 06	.2300	CS.4
Crossville	35 57	85 02	1903.8	3 27.5 E	67 36.4	.2332	3 26 E	67 38	.2328	CS.4
Huntingdon	36 00	88 23	1905.9	4 19.7 E	66 59.0	.2303	4 20 E	66 58	.2306	CS.6
Dandridge	36 01	83 25	1903.6	0 15.8 E	67 03.5	.2304	0 13 E	67 05	.2999	CS.4
Big Butte	36 04	82 38	1893.8	0 39.0 E	-- ----	----	0 11 E	-- --	----	CS.d
Johnsonville	36 04	88 00	1865.2	5 50 E	-- ----	----	3 56 E	-- --	----	CS.d
Clinton	36 06	84 08	1903.8	0 05.6 E	67 07.6	.2311	0 04 E	67 09	.2307	CS.4
Wartburg	36 07	84 36	1903.8	1 09.1 E	66 50.6	.2374	1 07 E	66 52	.2371	CS.4
Nashville	36 08	86 46	1905.9	3 48.0 E	67 00.9	.2294	3 48 E	67 00	.2296	CS.6
Erwin	36 09	82 26	1903.5	0 11.6 E	67 34.0	.2257	0 09 E	67 36	.2252	CS.4
Rutherford	36 09	89 01	1881.7	5 59.6 E	67 13.8	.2360	5 03 E	67 07	.2321	CS.d1
Greeneville	36 10	82 50	1903.6	0 23.7 W	67 13.5	.2285	0 26 W	67 15	.2280	CS.4
Cookeville	36 10	85 29	1905.9	2 51.2 E	67 03.7	.2329	2 52 E	67 03	.2332	CS.6
Morristown	36 12	83 18	1903.6	0 20.4 E	67 16.0	.2294	0 18 E	67 18	.2290	CS.4
Charlotte	36 12	87 18	1905.9	3 29.5 E	67 19.8	.2278	3 30 E	67 19	.2281	CS.6
Lebanon, N. base	36 13	86 18	1898.2	3 56.5 E	66 48.3	.2346	3 45 E	66 53	.2325	CS.d2

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

TENNESSEE—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Maynardville	36 15	83 48	1903.6	0 10.6 W	67 04.8	.2337	0 13 W	67 07	.2333	CS.4
Jonesboro	36 16	82 28	1903.5	0 19.4 E	67 30.5	.2249	0 17 E	67 32	.2244	CS.4
Edgefield	36 16	86 46	1871.9	5 02.0 E	67 10.7	.2331	3 20 E	66 50	.2295	NA.d1
Rutledge	36 17	83 32	1903.6	0 02.9 W	67 09.8	.2299	0 05 W	67 12	.2295	CS.4
Careyville	36 18	84 13	1900.5	0 12.7 E	67 45.4	.2270	0 06 W	67 51	.2255	CS.d2
Elizabethton	36 20	82 13	1903.5	0 10.8 E	67 44.7	.2236	0 08 E	67 47	.2231	CS.4
Rogersville	36 24	83 00	1903.6	0 08.1 W	67 39.2	.2262	0 10 W	67 41	.2257	CS.4
Huntsville	36 25	84 30	1903.8	0 24.1 W	67 56.8	.2270	0 26 W	67 59	.2266	CS.4
Tazewell	36 27	83 34	1903.6	0 43.3 W	67 33.9	.2305	0 46 W	67 36	.2301	CS.4
Jamestown	36 27	84 56	1903.8	3 05.1 E	67 28.1	.2305	3 03 E	67 30	.2301	CS.4
Mountain City	36 28	81 49	1903.5	0 32.4 W	67 57.9	.2220	0 35 W	68 00	.2215	CS.4
Blountville	36 29	82 21	1903.5	0 24.9 W	67 38.3	.2245	0 28 W	67 40	.2240	CS.4
Iron Mountain Furnace Tract.	36 30	88 00	1903.0	4 24 E	-- ----	----	4 24 E	-- --	----	CS.3
Fort Henry	36 30	88 04	1865.2	6 24 E	-- ----	----	4 22 E	-- --	----	CS.d
Bristol	36 36	82 11	1890.5	0 07.6 E	67 48.5	.2236	0 36 W	67 51	.2206	CS.d1

TEXAS

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Mouth Rio Grande	25 57	97 08	1853.9	9 00.9 E	52 23.6	----	8 09 E	53 26	----	CS.d1†
Fronton	26 05	97 12	1906.0	8 04.2 E	54 28.4	.3016	8 01 E	54 25	.3021	CS.6
Ringgold Barracks	26 23	98 43	1853.9	9 15 E	52 27	----	8 23 E	53 30	----	CS.d1†
Topo	26 45	97 28	1906.0	8 14.3 E	55 13.4	.2986	8 11 E	55 10	.2991	CS.6
Pena	27 19	98 39	1890.0	8 30.7 E	55 03.3	.3020	8 33 E	55 36	.2961	CS.d1
Laredo, Fort McIntosh	27 30	99 31	1895.3	8 34.6 E	55 10.7	.3005	8 48 E	55 34	.2964	CS.d1
Laredo	27 32	99 31	1890.1	8 47.7 E	55 00.2	.3014	8 50 E	55 33	.2955	CS.d1
San Diego	27 45	98 14	1905.9	8 39.0 E	56 12.7	.2946	8 36 E	56 10	.2950	CS.6
Corpus Christi	27 47	97 24	1906.0	8 24.1 E	56 33.7	.2932	8 21 E	56 31	.2937	CS.6
Beeville	28 23	97 46	1906.0	8 58.3 E	57 16.9	.2881	8 55 E	57 14	.2886	CS.6
Cotulla	28 27	99 14	1902.0	8 42.4 E	56 26.3	.2939	8 51 E	56 34	.2926	CS.d2
Carrizo Springs	28 30	99 51	1902.0	9 44.6 E	56 08.1	.2951	9 53 E	56 16	.2939	CS.d2
Port Lavaca	28 37	96 37	1890.2	8 04.5 E	57 01.3	.2941	8 10 E	57 34	.2883	CS.d2
Eagle Pass	28 44	100 30	1902.0	9 19.5 E	56 39.4	.2934	9 28 E	56 47	.2922	CS.d2
Victoria	28 48	97 00	1901.7	8 49.2 E	57 47.2	.2868	8 59 E	57 56	.2853	CS.d2
Jupiter	28 55	95 21	1853.4	9 08.7 E	57 11.4	.3041	7 32 E	58 08	[.2854]	CS.d1
Karnes	28 55	97 54	1906.0	8 38.4 E	57 32.0	.2884	8 35 E	57 29	.2890	CS.6
Pearsall	28 55	99 09	1902.0	8 17.2 E	57 10.2	.2903	8 26 E	57 19	.2891	CS.d2
Edna	28 58	96 40	1901.7	8 12.6 E	57 55.2	.2882	8 22 E	58 04	.2867	CS.d2
Cuero	29 06	97 17	1901.7	8 14.8 E	57 40.4	.2886	8 24 E	57 49	.2871	CS.d2
Lindenau	29 08	97 22	1902.7	8 15.0 E	57 49.0	.2882	8 22 E	57 54	.2872	CS.d2
Columbia	29 10	95 35	1890.3	7 37.3 E	57 54.7	.2903	7 37 E	58 27	.2845	CS.d1
Spofford	29 11	100 25	1890.1	9 13.9 E	56 59.6	.2936	9 16 E	57 30	.2880	CS.d1
Uvalde	29 13	99 48	1901.8	9 38.6 E	57 35.6	.2887	9 48 E	57 43	.2874	CS.d2
Boquillas	29 15	103 02	1906.2	10 12.6 E	57 01.3	.2898	10 09 E	56 59	.2902	CS.6
Galveston	29 17	94 48	1906.3	7 28.2 E	58 36.6	.2840	7 26 E	58 34	.2846	CS.6
Do.	29 18	94 47	1895.4	7 19.7 E	58 06.3	.2885	7 28 E	58 29	.2845	CS.d1
Wharton	29 18	96 04	1890.2	8 19.6 E	57 53.2	.2887	8 18 E	58 23	.2829	CS.d1
Hondo	29 19	99 05	1901.8	8 33.4 E	57 41.1	.2882	8 43 E	57 49	.2869	CS.d2
Bracketville	29 19	100 25	1901.8	9 09.5 E	57 23.4	.2890	9 19 E	57 31	.2877	CS.d2
Del Rio	29 22	100 52	1901.8	9 48.3 E	57 16.8	.2921	9 58 E	57 26	.2908	CS.d2
Dollar Point	29 26	94 53	1878.4	8 17.3 E	58 21.5	.2938	7 39 E	58 44	.2855	CS.d1
Hallettsville	29 27	96 57	1901.7	8 26.9 E	58 13.3	.2859	8 35 E	58 22	.2845	CS.d2
San Antonio	29 29	98 32	1902.8	8 48.2 E	57 56.2	.2873	8 55 E	58 02	.2865	CS.d2
Gonzales	29 30	97 26	1901.7	8 11.4 E	58 11.5	.2869	8 21 E	58 22	.2855	CS.d2
Mission	29 43	98 10	1906.0	8 46.2 E	58 28.5	.2857	8 43 E	58 26	.2862	CS.6
Bandera	29 44	99 05	1901.5	8 34.9 E	58 15.8	.2872	8 45 E	58 25	.2858	CS.d2
Houston	29 47	95 21	1902.6	7 45.8 E	59 10.6	.2830	7 53 E	59 18	.2819	CS.3
Langtry	29 48	101 35	1890.1	9 33.3 E	57 22.2	.2921	9 39 E	57 52	.2881	CS.d1
Lagrange (new)	29 52	96 49	1902.5	8 07.1 E	58 50.9	.2832	8 14 E	58 58	.2821	CS.3
Lagrange, old	29 53	96 54	1902.5	7 35.7 E	58 26.9	.2878	7 43 E	58 34	.2868	CS.3
San Marcos	29 54	97 56	1902.7	8 21.8 E	58 44.0	.2841	8 29 E	58 50	.2831	CS.3
Bellville	29 56	96 13	1902.5	8 03.8 E	59 10.0	.2817	8 11 E	59 17	.2806	CS.3
Kerrville	30 01	99 08	1901.5	8 28.8 E	59 02.7	.2791	8 39 E	59 12	.2777	CS.d2

† U. S. and Mex. Bound. Sur.; W. H. Emory, observer; Am. Acad. Sc., Vol. VI, 1856.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

TEXAS—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Rock Springs	30 01	100 12	1901.5	9 30.4 E	58 19.1	.2867	9 40 E	58 28	.2855	CS.d2
Orange	30 03	93 43	1890.3	7 09.8 E	59 25.0	.2822	7 01 E	59 51	.2769	CS.d1
Liberty	30 04	94 48	1902.8	7 36.1 E	59 40.6	.2782	7 42 E	59 46	.2772	CS.3
Beaumont	30 05	94 05	1890.3	7 30.7 E	59 20.6	.2823	7 24 E	59 49	.2770	CS.d1
Hempstead	30 08	96 10	1878.5	8 36.7 E	-- ----	----	7 57 E	-- --	----	CS.d
Sanderson	30 09	102 26	1890.1	10 08.4 E	57 22.7	.2909	10 16 E	57 50	.2868	CS.d1
Marathon	30 13	103 14	1906.2	10 20.7 E	58 22.9	.2820	10 17 E	58 20	.2823	CS.6
Fredericksburg	30 15	98 53	1901.5	8 59.2 E	59 02.2	.2834	9 09 E	59 10	.2820	CS.d2
Austin	30 16	97 46	1906.1	8 19.8 E	59 21.3	.2797	8 17 E	59 19	.2801	CS.6
Conroe	30 19	95 26	1902.5	7 50.2 E	59 42.5	.2783	7 56 E	59 49	.2772	CS.3
Marfa	30 19	104 01	1902.0	10 44.0 E	58 03.9	.2848	10 53 E	58 10	.2840	CS.d2
Alpine	30 22	103 40	1902.0	10 09.5 E	58 46.2	.2793	10 18 E	58 52	.2785	CS.d2
Do.	30 22	103 40	1906.2	-- ----	58 50.6	----	-- --	58 48	----	CS.6
Anderson	30 29	95 59	1902.5	7 38.2 E	59 45.3	.2783	7 45 E	59 52	.2772	CS.3
Junction City	30 29	99 53	1901.5	9 06.8 E	58 51.3	.2825	9 17 E	59 00	.2812	CS.d2
Caldwell	30 32	96 46	1902.5	8 25.9 E	59 32.4	.2791	8 33 E	59 38	.2781	CS.3
Sonora	30 35	100 40	1901.5	9 22.4 E	59 00.1	.2841	9 32 E	59 08	.2828	CS.d2
Valentine	30 35	104 30	1902.1	11 06.0 E	58 06.7	.2856	11 15 E	58 12	.2846	CS.d2
Georgetown	30 39	97 40	1902.7	8 26.7 E	59 44.8	.2784	8 33 E	59 50	.2774	CS.3
Livingston	30 43	94 56	1902.6	7 33.8 E	60 14.2	.2759	7 40 E	60 20	.2748	CS.3
Ozona	30 43	101 13	1901.5	9 35.6 E	59 16.4	.2813	9 46 E	59 24	.2801	CS.d2
Llano	30 44	98 41	1901.5	9 15.0 E	59 34.3	.2807	9 24 E	59 42	.2793	CS.d2
Mason	30 45	99 14	1901.5	9 48.7 E	59 13.4	.2821	9 58 E	59 22	.2808	CS.d2
Cameron	30 52	96 58	1902.7	8 12.0 E	59 51.4	.2775	8 18 E	59 57	.2766	CS.3
Eldorado	30 52	100 39	1901.5	9 10.9 E	59 40.1	.2790	9 21 E	59 48	.2777	CS.d2
Menardville	30 54	99 51	1901.5	8 31.0 E	59 23.6	.2786	8 40 E	59 31	.2774	CS.d2
Fort Stockton	30 54	102 50	1906.2	10 57.4 E	59 00.2	.2806	10 54 E	58 58	.2810	CS.6
Jasper	30 55	93 59	1906.2	7 21.9 E	60 42.2	.2720	7 19 E	60 40	.2725	CS.6
Trinity	30 57	95 22	1902.6	7 43.4 E	60 16.7	.2755	7 49 E	60 23	.2745	CS.3
Madisonville	30 57	95 55	1902.6	8 04.8 E	60 11.7	.2762	8 11 E	60 18	.2752	CS.3
Franklin	31 01	96 30	1902.5	8 20.2 E	60 05.2	.2767	8 26 E	60 11	.2757	CS.3
Lampasas	31 01	98 10	1906.1	8 38.4 E	60 22.0	.2729	8 36 E	60 20	.2734	CS.6
Mouth of Canyon	31 02	105 37	1852.5	12 01 E	57 38	.2784	11 06 E	58 15	.2674	CS.d1†
Belton	31 04	97 28	1901.3	8 25.2 E	60 00.8	.2764	8 34 E	60 10	.2749	CS.d2
Kent	31 04	104 14	1902.1	11 10.0 E	58 52.0	.2828	11 19 E	58 58	.2819	CS.d2
Brady	31 08	99 21	1901.4	9 33.0 E	59 40.1	.2805	9 42 E	59 48	.2791	CS.d2
Sierra Blanca	31 10	105 23	1905.1	11 36.8 E	58 50.6	.2801	11 36 E	58 50	.2801	CS.5
San Saba	31 11	98 43	1901.4	8 57.6 E	60 09.5	.2772	9 07 E	60 18	.2758	CS.d2
Sherwood	31 17	100 48	1901.5	9 36.5 E	59 36.4	.2802	9 46 E	59 44	.2790	CS.d2
Lufkin	31 21	94 44	1902.6	7 38.2 E	60 51.5	.2728	7 44 E	60 58	.2718	CS.3
Pecos	31 26	103 33	1901.9	10 20.2 E	59 23.7	.2782	10 30 E	59 30	.2772	CS.d2
Gatesville	31 27	97 45	1902.7	8 44.0 E	60 15.3	.2756	8 51 E	60 21	.2747	CS.3
San Angelo	31 28	100 26	1901.6	9 25.9 E	59 52.9	.2792	9 35 E	60 00	.2780	CS.d2
Paint Rock	31 30	99 55	1901.4	9 49.2 E	60 18.2	.2758	9 58 E	60 26	.2745	CS.d1
Groesbeck	31 32	96 31	1901.3	8 27.1 E	60 39.4	.2749	8 36 E	60 48	.2734	CS.d1
San Elizario	31 35	106 16	1852.5	- ----	58 57	----	- --	59 34	----	CS.1†
Waco	31 36	97 08	1902.7	8 18.4 E	60 32.7	.2739	8 24 E	60 39	.2729	CS.3
Chamliss	31 39	98 08	1906.1	8 56.6 E	60 36.3	.2735	8 54 E	60 34	.2740	CS.6
Ballinger	31 45	99 58	1901.4	9 53.2 E	60 17.3	.2752	9 02 E	60 25	.2739	CS.d2
El Paso	31 45	106 30	1905.1	12 03.2 E	59 22.2	.2776	12 03 E	59 22	.2776	CS.5
Palestine	31 47	95 38	1902.6	7 47.5 E	61 07.4	.2713	7 53 E	61 13	.2703	CS.3
Boundary	31 47	106 31	1892.3	11 53.3 E	58 57.0	.2799	12 03 E	59 12	.2776	CS.d1
Center	31 48	94 11	1902.6	7 40.3 E	61 26.5	.2693	7 47 E	61 32	.2682	CS.3
Frontera	31 49	106 33	1852.5	12 24 E	59 05	----	11 04 E	59 42	----	CS.d1†
Do.	31 49	106 33	1859.1	12 25.0 E	-- ----	----	11 12 E	-- --	----	CS.d‡
Guadalupe	31 49	103 55	1902.1	10 57.2 E	59 33.6	.2788	11 06 E	59 39	.2779	CS.d2
Coleman	31 50	99 25	1901.6	9 21.3 E	60 43.9	.2743	9 30 E	60 51	.2730	CS.d2
Sterling City	31 51	101 00	1901.6	10 24.8 E	60 27.8	.2739	10 34 E	60 35	.2728	CS.d2
Garden City	31 52	101 29	1901.6	10 34.7 E	60 19.9	.2734	10 44 E	60 27	.2723	CS.d2
Odessa	31 52	102 23	1905.1	10 54.6 E	60 19.9	.2729	10 54 E	60 20	.2730	CS.5
Robert Lee	31 54	100 29	1901.6	9 58.2 E	60 22.3	.2751	10 07 E	60 29	.2738	CS.d2
Meridian	31 57	97 40	1902.7	8 25.6 E	61 05.7	.2714	8 32 E	61 11	.2705	CS.3
Jacksonville	31 58	95 23	1902.6	7 37.0 E	61 26.6	.2691	7 43 E	61 32	.2681	CS.3
Henderson	32 11	94 49	1902.6	7 51.6 E	61 45.5	.2677	7 58 E	61 51	.2667	CS.3
Athens	32 13	95 51	1902.7	8 00.6 E	61 41.6	.2688	8 07 E	61 47	.2678	CS.3
Stephenville	32 13	98 12	1901.3	8 47.6 E	61 20.0	.2711	8 57 E	61 28	.2697	CS.d2

† U. S. and Mex. Bound. Sur.; W. H. Emory, observer; Am. Acad. Sc., Vol. VI, 1856.
‡ J. H. Clark, observer.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

TEXAS—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Big Springs	32 15	101 28	1901.6	10 14.8 E	60 45.5	.2716	10 25 E	60 52	.2705	CS.d2
Cisco	32 23	98 56	1888.9	9 38.1 E	60 55.5	.2729	9 37 E	61 20	.2683	CS.d1
Colorado S. M.	32 23	100 52	1901.6	10 47.6 E	61 14.8	.2690	10 58 E	61 22	.2679	CS.d2
Waxahachie	32 25	96 52	1902.7	8 18.8 E	61 41.3	.2681	8 25 E	61 46	.2672	CS.3
Longview	32 29	94 41	1872.3	8 37.8 E	61 57.6	.2670	7 27 E	61 09	.2593	NA.d1
Kaufman	32 35	96 20	1902.7	8 05.2 E	61 58.5	.2669	8 12 E	62 04	.2660	CS.3
Mineola	32 41	95 30	1902.7	7 45.6 E	62 09.2	.2651	7 51 E	62 14	.2641	CS.3
Albany	32 43	99 18	1901.7	9 26.0 E	61 43.3	.2694	9 36 E	61 50	.2682	CS.d2
Snyder	32 43	100 56	1901.6	10 25.7 E	61 01.6	.2712	10 36 E	61 08	.2702	CS.d2
Fort Worth	32 45	97 20	1889.0	9 07.2 E	61 40.3	.2692	9 05 E	62 02	.2648	CS.d1
Weatherford	32 45	97 49	1906.9	9 07.9 E	62 17.5	.2631	9 04 E	62 14	.2636	CS.7
Anson	32 45	99 54	1901.7	10 15.0 E	61 48.9	.2657	10 25 E	61 56	.2645	CS.d2
Roby	32 45	100 22	1901.7	10 15.7 E	61 42.5	.2661	10 26 E	61 50	.2650	CS.d2
Jefferson	32 46	94 21	1902.6	7 24.6 E	62 25.0	.2635	7 31 E	62 30	.2625	CS.3
Palo Pinto	32 46	98 17	1901.7	8 59.8 E	62 00.4	.2644	9 09 E	62 07	.2632	CS.d2
Breckenridge	32 46	98 53	1901.7	9 33.1 E	61 31.6	.2688	9 43 E	61 38	.2676	CS.d2
Mineral Wells	32 48	98 06	1901.7	9 01.1 E	61 55.0	.2667	9 11 E	62 02	.2654	CS.d2
Graham	33 04	98 35	1901.7	9 10.0 E	62 14.5	.2638	9 20 E	62 22	.2625	CS.d2
Aspermont	33 07	100 13	1901.7	10 50.0 E	61 41.9	.2671	11 00 E	61 48	.2659	CS.d2
Sulphur Springs	33 09	95 36	1902.6	7 43.8 E	62 40.1	.2627	7 51 E	62 45	.2617	CS.3
Haskell	33 10	99 43	1901.7	9 46.8 E	62 04.2	.2659	9 56 E	62 11	.2647	CS.d2
Mount Pleasant	33 10	94 58	1902.6	7 44.2 E	62 46.3	.2622	7 51 E	62 52	.2611	CS.3
Clairmont	33 10	100 45	1901.7	10 11.2 E	61 50.4	.2653	10 21 E	61 57	.2642	CS.d2
Throckmorton	33 11	99 10	1901.7	9 35.1 E	62 08.8	.2647	9 45 E	62 15	.2636	CS.d2
McKinney	33 13	96 36	1902.7	8 37.6 E	62 22.0	.2659	8 44 E	62 27	.2649	CS.3
Jacksboro	33 13	98 09	1901.7	9 08.3 E	62 28.1	.2634	9 18 E	62 35	.2623	CS.d2
Texarkana	33 26	94 03	1901.3	7 18.8 E	63 10.8	.2594	7 26 E	63 19	.2578	CS.d2
Benjamin	33 34	99 48	1901.7	9 54.0 E	62 45.2	.2591	10 04 E	62 52	.2580	CS.d2
Sherman	33 36	96 36	1878.5	9 19.9 E	-- ----	----	8 35 E	-- --	----	CS.d
Seymour	33 36	99 16	1901.7	9 46.4 E	62 43.1	.2602	9 55 E	62 50	.2591	CS.d2
Lubbock	33 36	101 52	1902.9	10 29.0 E	62 21.8	.2627	10 36 E	62 26	.2619	CS.3
Bowie	33 37	98 00	1906.9	9 16.9 E	62 57.8	.2588	9 12 E	62 54	.2596	CS.7
Gainesville	33 37	97 09	1900.0	9 06.3 E	63 01.2	.2631	9 18 E	63 12	.2611	CS.d2
Guthrie	33 37	100 19	1901.7	10 45.6 E	62 24.9	.2610	10 55 E	62 31	.2600	CS.d2
Dickens	33 37	100 50	1901.7	10 04.6 E	62 13.5	.2639	10 14 E	62 20	.2629	CS.d2
Emma	33 37	101 21	1902.9	10 18.7 E	62 03.0	.2633	10 25 E	62 07	.2626	CS.3
Paris	33 41	95 35	1902.7	7 57.2 E	63 19.1	.2583	8 04 E	63 24	.2574	CS.3
Henrietta	33 49	98 12	1900.0	9 07.5 E	62 55.0	.2600	9 19 E	63 05	.2581	CS.d2
Floydada	33 59	101 15	1902.9	10 20.9 E	62 25.1	.2636	10 28 E	62 29	.2629	CS.3
Crowell	34 00	99 42	1902.9	10 36.3 E	62 51.5	.2598	10 43 E	62 55	.2591	CS.3
Matador	34 00	100 42	1902.9	10 06.1 E	62 41.4	.2606	10 13 E	62 45	.2600	CS.3
Paducah	34 02	100 16	1902.9	10 15.5 E	62 35.2	.2616	10 22 E	62 39	.2609	CS.3
Vernon	34 09	99 18	1900.9	9 40.9 E	63 01.7	.2591	9 52 E	63 09	.2577	CS.d2
Plainview	34 12	101 45	1902.9	10 48.7 E	62 44.2	.2620	10 55 E	62 48	.2613	CS.3
Quanah	34 17	99 44	1902.9	10 05.5 E	62 58.3	.2605	10 12 E	63 02	.2598	CS.3
Childress	34 26	100 09	1902.9	10 38.4 E	63 08.4	.2593	10 45 E	63 12	.2586	CS.3
Silverton	34 28	101 23	1902.9	10 29.2 E	63 13.7	.2583	10 36 E	63 17	.2577	CS.3
Bovina	34 31	102 53	1902.8	10 17.7 E	63 17.7	.2567	10 24 E	63 21	.2561	CS.3
Dimmitt	34 33	102 19	1902.8	12 26.7 E	63 04.2	.2576	12 33 E	63 08	.2570	CS.3
Tulia	34 34	101 51	1902.9	11 10.5 E	63 10.0	.2587	11 17 E	63 14	.2581	CS.3
Memphis	34 44	100 32	1902.9	9 59.7 E	63 24.4	.2575	10 06 E	63 28	.2569	CS.3
Hereford	34 49	102 24	1902.8	11 35.4 E	63 05.0	.2591	11 42 E	63 08	.2585	CS.3
Wellington	34 51	100 12	1902.9	10 59.3 E	63 32.8	.2566	11 06 E	63 36	.2560	CS.3
Clarendon	34 57	100 53	1902.9	10 29.3 E	63 45.1	.2558	10 36 E	63 49	.2552	CS.3
Canyon	35 00	102 00	1902.9	11 29.1 E	63 35.0	.2567	11 35 E	63 38	.2560	CS.3
Claude	35 08	101 23	1902.9	10 52.1 E	63 55.4	.2542	10 58 E	63 59	.2536	CS.3
Amarillo	35 13	101 51	1903.0	11 40.2 E	64 01.8	.2543	11 47 E	64 05	.2537	CS.3
Panhandle	35 21	101 23	1902.8	10 54.5 E	64 15.0	.2504	11 01 E	64 18	.2498	CS.3
Lefors	35 26	100 49	1902.8	10 45.3 E	64 18.9	.2525	10 52 E	64 22	.2518	CS.3
Pampa	35 33	100 58	1902.8	10 55.5 E	64 35.4	.2490	11 02 E	64 39	.2484	CS.3
Tascosa	35 33	102 14	1902.7	11 46.2 E	64 12.4	.2516	11 53 E	64 16	.2510	CS.3
Mobeetie	35 34	100 26	1902.8	10 42.7 E	64 36.2	.2478	10 49 E	64 40	.2472	CS.3
Channing	35 41	102 17	1902.7	11 50.3 E	64 21.3	.2512	11 57 E	64 25	.2506	CS.3
Miami	35 42	100 38	1902.7	10 45.2 E	64 27.5	.2494	10 52 E	64 31	.2488	CS.3
Plemons	35 48	101 18	1902.7	11 17.8 E	64 37.6	.2480	11 24 E	64 41	.2474	CS.3
Hartley	35 51	102 23	1902.7	11 49.3 E	64 32.0	.2496	11 55 E	64 35	.2490	CS.3
Dumas	35 52	101 59	1902.7	11 48.3 E	64 37.6	.2489	11 54 E	64 41	.2483	CS.3
Canadian	35 55	100 24	1902.7	10 59.7 E	64 43.9	.2495	11 06 E	64 48	.2489	CS.3

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

TEXAS—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c.g.s.*	° ′	° ′	*c.g.s.*	
Dalhart	36 04	102 31	1902.7	11 55.5 E	64 41.8	.2474	12 02 E	64 45	.2467	CS.3
Higgins	36 08	100 01	1902.7	10 53.7 E	65 23.4	.2442	11 00 E	65 27	.2435	CS.3
Hansford	36 13	101 16	1902.7	11 10.1 E	64 48.6	.2482	11 17 E	64 52	.2475	CS.3
Lipscomb	36 15	100 15	1902.7	11 01.9 E	65 19.5	.2440	11 09 E	65 23	.2433	CS.3
Ochiltree	36 17	100 48	1902.7	11 02.8 E	65 06.2	.2464	11 10 E	65 10	.2457	CS.3
Stratford	36 20	102 04	1902.7	11 51.7 E	65 03.5	.2452	11 58 E	65 07	.2445	CS.3
Texline	36 23	103 00	1902.7	12 18.4 E	64 58.9	.2442	12 25 E	65 02	.2436	CS.3

UTAH

	° ′	° ′		° ′	° ′	*c.g.s.*	° ′	° ′	*c.g.s.*	
Kanab	37 02	112 32	1906.6	15 48.9 E	63 52.6	.2478	15 44 E	63 52	.2481	CS.7
St. George	37 08	113 35	1906.6	16 02.2 E	63 34.9	.2493	15 57 E	63 34	.2496	CS.7
Modena	37 49	113 56	1906.6	15 53.4 E	63 46.3	.2484	15 48 E	63 45	.2487	CS.7
Panguitch	37 50	112 27	1906.6	16 02.2 E	64 15.5	.2470	15 57 E	64 15	.2472	CS.7
Parowan	37 53	112 51	1906.6	16 21.4 E	64 16.4	.2449	16 17 E	64 15	.2452	CS.7
Mount Ellen	38 07	110 49	1891.6	15 07.6 E	66 45.0	.2342	15 26 E	66 54	.2322	CS.d1
Beaver	38 13	112 40	1906.6	16 02.4 E	64 33.3	.2437	15 58 E	64 32	.2440	CS.7
Do.	38 16	112 38	1885.7	15 29.9 E	64 20.7	.2450	15 49 E	64 32	.2423	CS.d1
Junction	38 17	112 15	1906.6	15 38.2 E	64 34.1	.2430	15 33 E	64 33	.2433	CS.7
Tamarac	38 24	112 24	1885.6	15 37.0 E	64 40.4	.2458	15 56 E	64 50	.2431	CS.d1
Tushar	38 25	112 24	1885.7	15 22.0 E	64 55.4	.2440	15 41 E	65 05	.2418	CS.d1
Milford	38 25	113 00	1885.7	15 13.3 E	64 38.3	.2445	15 32 E	64 48	.2422	CS.d1
Mount Waas	38 32	109 14	1893.6	14 35.4 E	65 57.4	.2450	14 52 E	66 04	.2431	CS.d1
Moab, Warner Rch.	38 34	109 32	1893.6	15 10.9 E	-- ----	----	15 25 E	-- --	----	CS.d
Richfield	38 47	112 07	1906.6	16 53.1 E	65 11.1	.2399	16 48 E	65 10	.2402	CS.7
Green River	38 59	110 10	1906.6	15 48.2 E	66 08.0	.2345	15 44 E	66 07	.2348	CS.7
Wasatch	39 07	111 27	1890.7	16 37.7 E	65 49.3	.2345	16 58 E	65 56	.2324	CS.d1
Manti	39 16	111 40	1906.6	16 50.6 E	66 01.6	.2345	16 46 E	66 00	.2348	CS.7
Deseret	39 18	112 38	1884.7	16 10.3 E	65 34.8	.2406	16 27 E	65 42	.2379	CS.d1
Scipio	39 24	112 12	1884.7	16 10.1 E	65 38.8	.2387	16 27 E	65 46	.2360	CS.d1
Patmos Head	39 30	110 19	1890.8	15 54.0 E	66 13.2	.2348	16 12 E	66 20	.2327	CS.d1
Price	39 36	110 50	1905.7	16 34.2 E	66 11.6	.2341	16 32 E	66 11	.2342	CS.6
Nephi	39 42	111 51	1883.9	16 27.2 E	66 26.2	.2353	16 41 E	66 34	.2325	CS.d1
Do.	39 42	111 51	1884.6	-- ----	66 04.6	----	-- --	66 12	----	CS.d
Dragon	39 47	109 06	1906.6	15 38.8 E	67 08.9	.2323	15 34 E	67 08	.2326	CS.7
Mount Nebo	39 48	111 46	1887.6	16 17.2 E	66 16.0	.2336	16 36 E	66 23	.2312	CS.d1
Provo	40 15	111 40	1883.9	16 31.6 E	66 41.0	.2339	16 45 E	66 48	.2314	CS.d1
Do.	40 15	111 40	1884.8	-- ----	66 36.4	----	-- --	66 44	----	CS.d
Mt. Guyot, Deseret	40 27	112 37	1892.7	16 42.9 E	66 45.0	.2297	17 03 E	66 52	.2278	CS.d1
Lake Shore	40 40	112 26	1887.8	16 38.2 E	66 59.6	.2309	16 56 E	67 08	.2285	CS.d1
Salt Lake	40 46	111 54	1893.4	16 22.0 E	67 05.2	.2291	16 42 E	67 11	.2272	CS.d1
City Creek	40 48	111 53	1893.4	16 35.7 E	-- ----	----	16 56 E	-- --	----	CS.d
Waddoup	40 54	111 53	1892.4	16 34.7 E	67 15.8	.2269	16 55 E	67 22	.2249	CS.d1
Antelope	40 58	112 13	1892.8	16 18.3 E	67 40.8	.2247	16 38 E	67 47	.2228	CS.d1
Castle Rock	41 08	111 10	1878.8	16 57.1 E	-- ----	----	17 02 E	-- --	----	CS.d
Ogden Peak	41 12	111 53	1888.7	17 25.8 E	67 53.0	.2312	17 46 E	68 00	.2289	CS.d1
Ogden	41 13	112 00	1905.4	17 39.7 E	67 27.4	.2242	17 38 E	67 27	.2243	CS.5
Promontory	41 18	112 25	1892.6	17 07.4 E	67 39.5	.2234	17 28 E	67 46	.2215	CS.d1
Corinne	41 38	112 06	1881.3	17 30.9 E	67 47.8	.2242	17 41 E	67 54	.2212	CS.d1
Kelton	41 45	113 08	1881.3	17 45.5 E	67 49.7	.2243	17 55 E	67 56	.2213	CS.d1

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

VERMONT

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Brattleboro	42 49	72 34	1898.8	11 38.3 W	73 36.2	.1707	11 57 W	73 30	.1711	CS.d2
Bellows Falls	43 09	72 28	1876.6	11 06.7 W	74 29.7	.1675	12 28 W	73 45	.1721	NA.d1
Manchester	43 10	73 05	1905.6	12 08.8 W	73 56.6	.1680	12 07 W	73 57	.1680	CS.6
Rutland	43 37	72 58	1905.6	12 28.0 W	74 08.5	.1664	12 26 W	74 09	.1663	CS.6
White River Jc.	43 40	72 18	1876.6	11 05.3 W	75 07.8	.1609	12 30 W	74 23	.1652	NA.d1
Middlebury	44 01	73 11	1905.6	12 18.0 W	74 30.8	.1628	12 16 W	74 31	.1627	CS.6
Wells River	44 09	72 05	1876.6	11 54.5 W	75 31.0	.1585	13 22 W	74 46	.1628	NA.d1
Montpelier	44 15	72 32	1898.8	13 49.5 W	74 30.2	.1619	14 10 W	74 26	.1629	CS.d2
St. Johnsbury	44 24	72 01	1905.7	13 44.6 W	74 50.0	.1595	13 42 W	74 50	.1594	CS.6
Burlington	44 29	73 12	1905.6	12 48.0 W	74 29.8	.1634	12 46 W	74 30	.1633	CS.6
Hyde Park	44 35	72 37	1905.7	14 19.8 W	74 50.3	.1598	14 18 W	74 51	.1597	CS.6
St. Albans	44 49	73 03	1905.7	15 01.4 W	75 14.6	.1562	14 59 W	75 15	.1562	CS.6
Derby	45 00	72 12	1876.6	13 18.2 W	75 51.0	.1530	14 40 W	75 03	.1577	NA.d1

VIRGINIA

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Dismal Swamp B Stone	36 33	76 23	1886.9	3 15.9 W	68 22.2	.2192	4 22 W	68 13	.2166	CS.d1
Hines, N. C. bndry	36 33	76 34	1887.1	3 04.7 W	68 32.8	.2186	4 10 W	68 24	.2160	CS.d1
Knott I., north end	36 34	75 55	1873.3	2 54.8 W	68 52.5	.2195	4 51 W	68 14	.2168	CS.d1
Bristol	36 36	82 10	1906.6	0 33.0 W	67 53.6	.2211	0 31 W	67 52	.2216	CS.7
Danville	36 37	79 25	1873.6	1 16.3 W	68 54.8	.2180	3 10 W	68 18	.2147	NA.d1
Stuart	36 39	80 16	1901.8	1 53.0 W	67 47.0	.2245	2 01 W	67 50	.2234	CS.d2
Emporia	36 40	77 32	1897.4	3 29.2 W	68 10.5	.2176	3 55 W	68 14	.2155	CS.d2
Oldtown	36 40	80 57	1902.5	0 36.4 W	68 19.5	.2185	0 42 W	68 22	.2177	CS.d2
Rogers	36 40	81 33	1894.6	0 13.5 E	-- ----	----	0 18 W	-- --	----	CS.d
Big Knob	36 40	82 30	1907.4	1 22.5 W	67 58.8	.2229	1 17 W	67 57	.2239	CS.7
White Rock	36 40	83 27	1907.3	0 39.5 W	68 19.8	.2228	0 34 W	68 18	.2238	CS.7
Boydton	36 41	78 22	1906.5	2 48.0 W	68 25.1	.2156	2 44 W	68 24	.2161	CS.7
Martinsville, Sch. grounds	36 42	79 52	1901.8	1 59.9 W	67 53.7	.2230	2 08 W	67 58	.2218	CS.d2
Martinsville, N. M.	36 42	79 53	1901.8	2 28.8 W	-- ----	----	2 37 W	-- --	----	CS.d
Abingdon	36 42	81 58	1897.6	0 12.9 W	67 50.0	.2238	0 33 W	67 54	.2218	CS.d2
Jonesville	36 42	83 11	1902.5	0 50.8 W	68 00.2	.2245	0 55 W	68 03	.2237	CS.3
Princess Anne	36 45	76 04	1906.5	4 45.1 W	68 41.7	.2138	4 41 W	68 40	.2143	CS.7
Houston	36 46	78 56	1897.6	2 23.9 W	68 09.9	.2204	2 48 W	68 14	.2184	CS.d2
Hillsville	36 47	80 44	1902.5	0 54.3 W	68 27.3	.2176	1 00 W	68 30	.2168	CS.d2
Buffalo	36 48	80 29	1895.7	0 08.9 W	68 07.3	.2201	0 40 W	68 13	.2181	CS.d1
Chatham	36 50	79 23	1901.8	2 15.0 W	68 17.2	.2184	2 24 W	68 20	.2172	CS.d2
Marion	36 50	81 31	1898.4	1 02.0 W	68 06.3	.2214	1 21 W	68 11	.2195	CS.d2
Norfolk	36 52	76 16	1905.2	4 37.5 W	68 39.3	.2139	4 37 W	68 39	.2140	CS.5
Mount Airy	36 52	79 11	1873.7	0 55.2 E	68 54.7	.2210	0 59 W	68 26	.2196	NA.d1
Little Creek Inlet	36 56	76 11	1906.5	4 34.5 W	68 46.0	.2125	4 30 W	68 45	.2130	CS.7
Lebanon	36 56	82 07	1902.5	1 27.2 W	67 55.1	.2247	1 35 W	67 58	.2239	CS.3
Cape Henry	36 56	76 00	1895.5	3 56.5 W	68 48.7	.2139	4 30 W	68 51	.2115	CS.d1
Cape Henry (new)	36 56	76 00	1906.5	4 41.1 W	68 53.3	.2109	4 37 W	68 52	.2114	CS.7
Wytheville	36 57	81 04	1902.5	1 11.6 W	68 25.3	.2180	1 18 W	68 28	.2173	CS.3
Old Point Comfort	37 00	76 18	1856.7	1 14.7 W	69 31.6	.2148	4 15 W	68 40	.2130	CS.d1
Do.	37 00	76 18	1902.0	4 20 W	-- ----	----	4 29 W	-- --	----	CS.d
Rocky Mount	37 00	79 53	1901.7	1 52.4 W	68 33.8	.2176	2 02 W	68 37	.2165	CS.d2
Wise	37 00	82 37	1902.5	0 15.3 W	68 29.6	.2193	0 21 W	68 32	.2186	CS.3
Pulaski Inn	37 03	80 46	1902.6	1 23.6 W	68 35.7	.2163	1 29 W	68 38	.2155	CS.3
Pulaski, C. H.	37 04	80 47	1902.6	1 15.0 W	68 34.6	.2165	1 21 W	68 37	.2158	CS.3
Smithville	37 04	78 40	1901.9	2 42.6 W	68 27.5	.2170	2 53 W	68 30	.2160	CS.d2
Dinwiddie	37 05	77 35	1901.9	3 12.5 W	68 39.6	.2160	3 23 W	68 42	.2150	CS.d2
Cahas	37 06	80 01	1907.5	1 23.6 W	68 53.9	.2142	1 18 W	68 52	.2152	CS.7
Cape Charles	37 07	75 58	1856.7	1 35.2 W	69 43.3	.2131	4 36 W	68 52	.2113	CS.d1
Tazewell	37 07	81 31	1898.4	1 40.6 W	68 24.9	.2185	2 00 W	68 31	.2166	CS.d2
Christiansburg	37 08	80 24	1897.6	0 58.7 W	68 42.1	.2159	1 21 W	68 48	.2139	CS.d2
Bland	37 08	81 08	1902.5	1 00.8 W	68 27.6	.2184	1 07 W	68 30	.2176	CS.3
Nottoway	37 08	78 06	1901.9	3 12.0 W	68 33.6	.2156	3 23 W	68 36	.2145	CS.d2
Clintwood	37 11	82 30	1902.5	0 09.7 W	68 32.8	.2180	0 15 W	68 34	.2172	CS.3
Shack Mills	37 12	81 59	1902.6	1 04.1 W	68 38.9	.2197	1 10 W	68 41	.2190	CS.3
Burkeville	37 13	78 12	1873.6	1 59.7 W	69 20.4	.2125	3 54 W	68 43	.2112	NA.d1
Petersburg	37 14	77 23	1901.9	3 36.4 W	68 45.9	.2128	3 47 W	68 48	.2118	CS.d2

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

VIRGINIA—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
York River	37 15	76 24	1902.0	4 26 W	-- ----	----	4 36 W	-- --	----	CS.d
Cape Charles	37 16	76 02	1900.4	4 17.1 W	69 08.6	.2103	4 32 W	69 11	.2089	CS d2
Williamsburg	37 16	76 43	1887.3	3 02.9 W	68 56.5	.2111	4 08 W	68 48	.2086	CS.d1
Rustburg	37 17	79 06	1901.7	3 29.3 W	68 18.7	.2207	3 40 W	68 22	.2196	CS.d2
Farmville	37 18	78 25	1901.8	3 09.4 W	68 40.8	.2148	3 21 W	68 43	.2138	CS.d2
Scott	37 20	75 54	1856.7	1 37.5 W	70 01.5	.2108	4 38 W	69 11	.2092	CS.d1
Bedford City	37 20	79 31	1902.4	3 35.7 W	69 14.6	.2101	3 44 W	69 17	.2093	CS.d2
Salem	37 20	80 06	1900.4	1 24.7 W	68 58.8	.2130	1 41 W	69 03	.2116	CS.d2
Charles City	37 21	77 03	1901.7	4 41.7 W	68 45.3	.2128	4 52 W	68 48	.2118	CS.d2
Amelia	37 21	77 59	1901.9	3 54.4 W	68 49.2	.2140	4 05 W	68 52	.2130	CS.d2
Pearisburg	37 21	80 44	1902.5	2 02.5 W	68 44.1	.2159	2 10 W	68 47	.2151	CS.d2
West Appomattox	37 22	78 50	1901.8	2 17.0 W	68 35.6	.2184	2 28 W	68 38	.2174	CS.d2
W.Appomattox,S.M.	37 22	78 50	1901.8	1 25.1 W	68 30.9	----	1 36 W	68 33	----	CS.d2
Appomattox	37 23	78 48	1901.8	3 31.1 W	69 02.6	.2146	3 42 W	69 05	.2136	CS.d2
Wolftrap	37 24	76 15	1871.4	2 49.3 W	69 46.8	.2122	4 54 W	69 06	.2110	CS.d1
Lynchburg	37 25	79 09	1901.7	2 24.8 W	68 56.2	.2134	2 37 W	68 59	.2124	CS.d2
Fincastle	37 30	79 53	1902.4	1 25.4 W	69 10.0	.2111	1 35 W	69 12	.2103	CS.d2
New Kent	37 31	76 59	1901.6	4 10.3 W	69 04.1	.2113	4 22 W	69 06	.2102	CS.d2
Cumberland	37 31	78 15	1901.8	3 46.7 W	68 55.0	.2141	3 58 W	68 58	.2131	CS.d2
Newcastle	37 31	80 06	1902.4	1 42.0 W	68 57.7	.2126	1 50 W	69 00	.2118	CS.d2
Powhatan	37 33	77 55	1901.8	3 44.0 W	68 55.4	.2127	3 55 W	68 58	.2116	CS.d2
Richmond	37 33	77 28	1901.6	3 45.0 W	69 05.0	.2116	3 56 W	69 07	.2105	CS.d2
Buckingham	37 34	78 32	1901.7	4 19.5 W	68 45.5	.2172	4 31 W	68 48	.2161	CS.d2
Amherst	37 36	79 03	1901.7	2 43.7 W	69 20.8	.2113	2 56 W	69 23	.2102	CS.d2
Rappahannock R.	37 37	76 18	1902.0	4 42 W	-- ----	----	4 51 W	-- --	----	CS.d
Natural Bridge	37 38	79 32	1900.3	1 52.8 W	69 12.6	.2109	2 10 W	69 16	.2094	CS.d2
Accomac	37 41	75 42	1897.4	4 44.9 W	69 25.9	.2088	5 10 W	69 28	.2068	CS.d2
Goochland	37 41	77 54	1901.7	3 50.8 W	69 05.6	.2114	4 02 W	69 08	.2103	CS.d2
Joynes	37 42	75 37	1856.7	2 03.3 W	70 21.2	.2069	4 59 W	69 31	.2078	CS.d1
Lovingston	37 46	78 53	1901.7	2 36.7 W	69 30.4	.2086	2 49 W	69 33	.2075	CS.d2
North Mountain	37 46	79 44	1884.1	1 05.1 W	-- ----	----	2 20 W	-- --	----	CS.d
Hanover	37 47	77 21	1903.3	4 12.8 W	69 19.3	.2094	4 18 W	69 21	.2089	CS.3
Lexington	37 47	79 27	1897.6	2 06.0 W	69 32.0	.2092	2 34 W	69 35	.2071	CS.d2
Tangier I.	37 48	75 59	1871.5	3 03.2 W	70 11.6	.2090	5 04 W	69 32	.2087	CS.d1
Covington	37 48	79 59	1900.3	2 01 W	69 11.0	.2111	2 18 W	69 15	.2096	CS.d2
Palmyra	37 51	78 16	1901.7	5 22.3 W	69 03.2	.2137	5 34 W	69 05	.2126	CS.d2
Palmyra, N. M.	37 51	78 16	1901.7	4 28 W	69 12.8	----	4 40 W	69 15	----	CS.d2
Sned	37 58	75 26	1856.7	2 18.4 W	70 31.0	.2051	5 13 W	69 37	.2060	CS.d1
Goshen	37 59	79 30	1900.5	2 26.7 W	69 25.8	.2088	2 43 W	69 29	.2073	CS.d2
Milford	38 01	77 22	1900.3	- ----	69 22.2	----	- --	69 25	----	CS.2
Louisa	38 02	78 00	1901.7	5 02.1 W	69 25.1	.2103	5 14 W	69 27	.2093	CS.d2
Charlottesville	38 02	78 30	1906.6	3 50.0 W	69 47.2	.2047	3 45 W	69 46	.2052	CS.7
Do.	38 03	78 30	1901.7	3 37.2 W	69 42.0	.2062	3 49 W	69 44	.2052	CS.d2
Greenwood	38 03	78 47	1900.3	3 32.1 W	69 33.1	.2077	3 49 W	69 36	.2062	CS.d2
Warm Springs	38 03	79 45	1900.5	2 25.4 W	69 25.0	.2098	2 42 W	69 28	.2084	CS.d2
Bowling Green	38 04	77 21	1903.3	4 35.6 W	69 33.5	.2084	4 40 W	69 34	.2078	CS.3
Staunton	38 09	79 04	1900.4	2 33.8 W	69 39.3	.2070	2 50 W	69 42	.2056	CS.d2
Spottsylvania	38 13	77 34	1903.3	4 41.8 W	69 36.1	.2079	4 48 W	69 37	.2074	CS.d2
Orange	38 14	78 06	1900.3	2 55.1 W	71 31.3	.1961	3 11 W	71 34	.1946	CS.d2
King George	38 16	77 11	1906.6	5 02.2 W	69 48.0	.2055	4 57 W	69 47	.2060	CS.7
Fredericksburg	38 18	77 27	1900.3	4 12.0 W	69 47.9	.2061	4 28 W	69 50	.2046	CS.d2
Stanardsville	38 18	78 27	1900.5	3 25.6 W	69 49.7	.2059	3 40 W	69 52	.2045	CS.d2
Burketown	38 18	78 56	1900.5	2 52.4 W	69 45.3	.2061	3 09 W	69 48	.2047	CS.d2
Clark Mountain	38 19	78 00	1871.6	1 46.8 W	71 40.2	.2024	3 46 W	70 58	.2013	CS.d1
Madison	38 23	78 15	1900.5	4 53.7 W	69 49.3	.2062	5 09 W	69 52	.2048	CS.d2
Elkton	38 24	78 37	1900.5	3 09.8 W	69 50.9	.2052	3 25 W	69 54	.2038	CS.d2
Stafford	38 25	77 24	1900.6	4 20.4 W	69 45.1	.2060	4 34 W	69 47	.2046	CS.d2
Monterey	38 25	79 35	1900.4	2 55.0 W	69 37.4	.2079	3 10 W	69 41	.2064	CS.d2
Harrisonburg	38 27	78 52	1900.5	2 58.2 W	69 49.2	.2054	3 14 W	69 51	.2040	CS.d2
Culpeper	38 29	77 59	1900.3	2 00.8 W	70 17.2	.1992	2 17 W	70 20	.1979	CS.d2
Woodville	38 35	78 06	1892.0	- ----	70 11.6	.2152	- --	70 10	.2127	CS.1
Calverton	38 38	77 41	1900.3	3 42.7 W	70 23.0	----	3 58 W	70 25	----	CS.d2
Luray	38 40	78 27	1900.5	3 20.7 W	70 06.1	.2032	3 36 W	70 09	.2018	CS.d2
Mount Vernon	38 42	77 05	1844.3	- ----	70 55.5	.2029	- --	70 12	.2008	CS.1
Alwington	38 42	77 47	1900.3	8 25.7 W	70 10.6	.2045	8 41 W	70 13	.2030	CS.d2
Washington	38 43	78 10	1900.5	3 40.0 W	70 14.3	.2024	3 55 W	70 17	.2010	CS.d2
Manassas	38 45	77 30	1900.3	4 17.1 W	70 12.4	.2033	4 32 W	70 15	.2019	CS.d2
Fairfax C. H.	38 51	77 18	1900.6	4 35.3 W	70 03.4	.2044	4 48 W	70 06	.2028	CS.d2

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

VIRGINIA—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Woodstock	38 52	78 32	1897.6	3 45.5 W	70 16.8	.2029	4 09 W	70 20	.2010	CS.d2
Bull Run	38 53	77 42	1871.8	4 21.3 W	71 18.9	.1998	6 27 W	70 38	.1988	CS.d1
Cherrydale	38 54	77 07	1900.5	5 19.1 W	70 37.9	.1994	5 33 W	70 38	.1981	CS.d2
Rectortown	38 54	77 53	1900.4	3 12.9 W	70 22.3	.2014	3 28 W	70 25	.2000	CS.d2
Peach Grove	38 55	77 14	1869.8	2 54.7 W	71 05.0	.2000	5 04 W	70 21	.1994	CS.d1
Front Royal	38 55	78 12	1900.5	3 52.8 W	70 14.7	.2021	4 06 W	70 17	.2008	CS.d2
Strasburg	38 59	78 21	1900.4	3 50.6 W	70 21.8	.2016	4 05 W	70 24	.2002	CS.d2
Mt. Weather, pier E	39 04	77 53	1907.4	3 38.7 W	70 40.7	.1984	3 31 W	70 39	.1993	CS.7
Mt. Weather	39 04	77 53	1907.4	4 06.9 W	-- ----	.1958	4 00 W	-- --	.1967	CS.7
Leesburg	39 07	77 34	1900.6	4 46.2 W	70 29.5	.2003	5 00 W	70 31	.1990	CS.d2
Round Hill	39 08	77 46	1900.6	4 24.4 W	70 32.7	.1995	4 38 W	70 34	.1982	CS.d2
Winchester	39 10	78 10	1900.4	4 24.0 W	70 30.9	.2002	4 39 W	70 33	.1988	CS.d2

WASHINGTON

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Vancouver, nr. Fort	45 38	122 40	1895.2	21 32.4 E	69 17.0	.2091	22 01 E	69 12	.2090	CS.d1
Lower Cascades	45 39	122 00	1881.8	19 29.3 E	-- ----	.2073	20 13 E	-- --	.2056	CS.d1
Dalles	45 40	120 49	1860.4	-- ----	70 04.5	.2043	-- --	70 00	.2002	CS.1†
Stevenson	45 41	121 52	1906.5	21 25.0 E	69 30.3	.2042	21 20 E	69 30	.2042	CS.7
Near Wallula	46 02	119 00	1860.0	19 46 E	-- ----	----	20 31 E	-- --	----	CS.d‡
Walla Walla	46 03	118 22	1905.6	21 37.4 E	70 29.2	.1981	21 36 E	70 29	.1981	CS.6
Magnetic Sta.	46 03	118 25	1860.0	20 00 E	-- ----	----	20 45 E	-- --	----	CS.d‡
Wallula	46 07	118 55	1881.7	19 55.7 E	70 24.9	.2025	20 31 E	70 24	.2004	CS.d1
Dry Creek	46 09	118 18	1860.0	20 13 E	70 46.8	.1978	20 58 E	70 46	.1956	CS.d1‡
Ainsworth	46 14	119 03	1881.6	21 24.5 E	70 37.8	.1997	22 00 E	70 36	.1977	CS.d1
C. Disappointment	46 17	124 03	1895.2	21 55.8 E	69 16.5	.2064	22 23 E	69 12	.2068	CS.d1
Pomeroy	46 31	117 40	1881.7	21 33.5 E	70 20.2	.2032	22 07 E	70 32	.2012	CS.d1
Tukannon R.	46 32	118 00	1860.0	20 55 E	70 21.6	.2020	21 31 E	70 28	.1998	CS.d1‡
North Yakima	46 34	120 32	1906.2	22 35.8 E	70 12.2	.1995	22 32 E	70 13	.1995	CS.6
Sixty Mile Well	46 49	118 50	1881.6	22 46.9 E	70 44.8	.1992	23 22 E	70 46	.1972	CS.d1
Colfax	46 52	117 22	1905.6	22 36.1 E	71 16.2	.1938	22 34 E	71 16	.1938	CS.6
Cow Creek	46 53	118 10	1860.0	21 01 E	71 01.2	.1983	21 35 E	71 03	.1961	CS.d1‡
Ellensburg	47 00	120 32	1906.2	22 52.2 E	70 32.6	.1965	22 48 E	70 33	.1965	CS.6
Olympia	47 02	122 54	1881.8	21 34.6 E	-- ----	.1975	22 24 E	-- --	.1960	CS.d1
Olympia(Howard△)	47 03	122 53	1906.1	23 20.5 E	70 22.4	.1987	23 17 E	70 23	.1987	CS.6
Nisqually	47 07	122 38	1859.1	21 23 E	70 40.0	.2002	23 02 E	70 26	.1950	CS.d1†
Lugenbeel Cr.	47 09	118 06	1860.0	20 55 E	71 18.6	.1950	21 38 E	71 17	.1928	CS.d1‡
Hot Springs	47 12	121 33	1906.2	22 17.9 E	70 23.1	.1971	22 14 E	70 24	.1971	CS.6
Tacoma	47 16	122 27	1906.1	23 06.6 E	70 37.9	.1958	23 03 E	70 39	.1958	CS.6
Sprague	47 19	118 00	1881.6	22 55.4 E	71 05.8	.1982	23 28 E	71 19	.1962	CS.d1
Wilson Creek	47 26	119 00	1906.3	22 42.2 E	72 01.0	.1875	22 38 E	72 01	.1875	CS.6
Port Orchard	47 32	122 38	1906.6	22 41.6 E	70 55.6	.1944	22 36 E	70 56	.1944	CS.7
Leavenworth	47 36	120 33	1906.2	22 32.0 E	71 02.8	.1930	22 28 E	71 03	.1930	CS.6
Seattle	47 40	122 18	1906.0	23 16.8 E	70 51.6	.1934	23 14 E	70 52	.1934	CS.6
Spokane Falls	47 40	117 26	1881.7	21 39.4 E	72 13.3	.1923	22 13 E	72 26	.1903	CS.d1
Spokane	47 42	117 30	1906.6	23 21.8 E	71 49.2	.1877	23 17 E	71 49	.1877	CS.7
Peon Prairie	47 44	117 14	1860.0	21 53 E	72 05.4	.1890	22 22 E	72 13	.1868	CS.d1‡
Spokane Ferry	47 49	117 49	1860.0	22 07 E	71 52.2	.1905	22 42 E	71 59	.1883	CS.d1‡
Everett	47 58	122 13	1900.9	23 15.3 E	71 07.7	.1919	23 28 E	71 05	.1923	CS.d2
Chemikane R.	48 00	117 45	1861.4	21 28 E	72 04.2	.1894	22 07 E	72 11	.1871	CS.d1†
Port Townsend	48 07	122 45	1904.1	23 15.7 E	71 15.0	.1900	23 19 E	71 14	.1901	CS.4
Port Angeles	48 08	123 26	1904.3	23 40.7 E	70 57.5	.1940	23 43 E	70 57	.1941	CS.4
Striped Peak	48 10	123 41	1893.5	23 12.3 E	-- ----	----	23 40 E	-- --	----	CS.d
Dungeness	48 11	123 07	1892.7	23 26.1 E	-- ----	----	23 57 E	-- --	----	CS.d
Slip	48 16	124 14	1893.6	23 30.6 E	-- ----	----	23 59 E	-- --	----	CS.d
Cape Flattery	48 22	124 38	1881.8	22 44.2 E	71 04.4	.1911	23 36 E	70 58	.1906	CS.d1
Waadah	48 23	124 36	1893.6	23 26.3 E	-- ----	----	23 55 E	-- --	----	CS.d
Mount Vernon	48 24	122 21	1900.9	23 08 E	71 20.4	.1911	23 21 E	71 16	.1915	CS.d2
Classet	48 24	124 40	1893.7	23 06.4 E	-- ----	----	23 34 E	-- --	----	CS.d
Tatoosh	48 24	124 44	1893.7	23 45.1 E	-- ----	----	24 13 E	-- --	----	CS.d
San Juan Island	48 28	122 58	1897.6	23 31.4 E	71 11.0	.1909	23 52 E	71 05	.1917	CS.d2
Bellevue	48 32	123 10	1894.4	26 48 E	-- ----	----	27 15 E	-- --	----	CS.d
Colville	48 33	117 53	1906.6	23 38.2 E	72 22.6	.1815	23 33 E	72 23	.1815	CS.7

† Boundary Survey, R. W. Haig, observer, Phil. Trans. R. S., 1864; revised results, 1900.
‡ U. S. Northwest Boundary Commission; J. S. Harris, observer; revised results, 1900.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

WASHINGTON—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Mat	48 33	122 57	1894.6	23 18 E	-- ----	----	23 45 E	-- --	----	CS.d
Slope	48 33	123 00	1894.6	23 22 E	-- ----	----	23 49 E	-- --	----	CS.d
Colville depot	48 34	117 52	1860.0	22 31 E	72 30.6	.1833	23 13 E	72 37	.1811	CS.d1†
Bamboo	48 34	123 01	1894.6	23 42 E	-- ----	----	24 09 E	-- --	----	CS.d
Windlass	48 35	123 10	1894.5	23 20 E	-- ----	----	23 47 E	-- --	----	CS.d
Shaw Island	48 36	122 58	1895.6	23 43.6 E	71 27.5	.1894	24 08 E	71 21	.1903	CS.d1
Goose	48 36	123 02	1894.5	23 33 E	-- ----	----	24 00 E	-- --	----	CS.d
Clover	48 36	123 10	1894.5	22 50 E	-- ----	----	23 17 E	-- --	----	CS.d
Root	48 37	122 57	1894.5	23 11 E	-- ----	----	23 38 E	-- --	----	CS.d
Fairview	48 38	123 02	1894.5	23 55 E	-- ----	----	24 22 E	-- --	----	CS.d
Spieden	48 38	123 06	1894.5	23 29 E	-- ----	----	23 56 E	-- --	----	CS.d
Morse Island	48 38	123 11	1894.4	23 30 E	-- ----	----	23 57 E	-- --	----	CS.d
Limestone	48 39	123 00	1894.5	23 36 E	-- ----	----	24 03 E	-- --	----	CS.d
Fort Colville	48 40	118 05	1861.3	21 40 E	72 41.9	.1841	22 24 E	72 48	.1818	CS.d1†
Middleton	48 42	123 04	1894.5	22 36 E	-- ----	----	23 03 E	-- --	----	CS.d
Doughty	48 43	122 57	1894.5	23 27 E	-- ----	----	23 54 E	-- --	----	CS.d
Dry	48 43	123 02	1894.5	25 11 E	-- ----	----	25 38 E	-- --	----	CS.d
New Whatcom	48 44	122 29	1900.9	23 20.6 E	71 31.0	.1895	23 34 E	71 27	.1900	CS.d2
Patos	48 47	122 58	1894.5	23 04 E	-- ----	----	23 31 E	-- --	----	CS.d
Magnetic Sta.	48 59	121 42	1860.0	22 47 E	-- ----	----	24 23 E	-- --	----	CS.d‡
Do.	48 59	121 57	1860.0	22 39 E	-- ----	----	24 19 E	-- --	----	CS.d‡
Pend d'Oreille	49 00	117 23	1905.8	23 43.0 E	72 52.2	.1776	23 40 E	72 52	.1776	CS.6
Columbia R.	49 00	117 37	1901.8	23 18.2 E	-- ----	----	23 29 E	-- --	----	CS.d
Waneta	49 00	117 38	1905.8	23 24.8 E	72 47.8	.1787	23 22 E	72 48	.1787	CS.6
Sheep Creek	49 00	117 51	1905.8	23 17.0 E	72 40.3	.1801	23 14 E	72 40	.1801	CS.6
Russell	49 00	118 14	1901.6	23 11.7 E	-- ----	----	23 33 E	-- --	----	CS.d
Laurier	49 00	118 14	1905.8	23 23.4 E	72 43.3	.1794	23 21 E	72 43	.1794	CS.6
Carson	49 00	118 30	1905.9	24 02.8 E	72 38.0	.1785	24 00 E	72 38	.1785	CS.6
Magnetic Sta.	49 00	118 44	1860.0	22 07 E	-- ----	----	22 52 E	-- --	----	CS.d‡
Midway	49 00	118 46	1905.7	23 31.4 E	72 29.5	.1815	23 29 E	72 30	.1815	CS.6
Sawmill Creek	49 00	119 10	1905.7	23 41.6 E	72 26.2	.1802	23 39 E	72 26	.1801	CS.6
Camp Osoyoos	49 00	119 24	1860.0	-- ----	72 35.0	----	-- --	72 28	----	CS.1‡
Osoyoos Lake	49 00	119 26	1905.7	24 03.4 E	72 25.8	.1807	24 01 E	72 26	.1807	CS.6
Magnetic Sta.	49 00	119 35	1860.0	23 34 E	-- ----	----	24 32 E	-- --	----	CS.d
Similkameen R.	49 00	119 41	1905.7	24 38.3 E	72 08.7	.1820	24 36 E	72 09	.1820	CS.6
Similkameen R. 16 m. west	49 00	120 04	1905.7	24 30.2 E	72 13.2	.1829	24 28 E	72 13	.1828	CS.6
Pasayten River	49 00	120 33	1905.7	24 49.0 E	71 40.9	.1884	24 47 E	71 41	.1884	CS.6
Skagit	49 00	121 03	1860.0	-- ----	72 39.6	.1813	-- --	72 20	.1778	CS.1‡
Skagit River	49 00	121 06	1905.6	22 46.7 E	72 39.3	.1802	22 45 E	72 40	.1802	CS.6
Depot Creek	49 00	121 19	1905.6	23 33.1 E	71 33.6	.1882	23 31 E	71 34	.1881	CS.6
Silicia Creek*	49 01	121 36	1901.4	26 45.8 E	-- ----	----	26 58 E	-- --	----	CS.d
Do.*	49 00	121 36	1905.6	29 00.0 E	70 58.0	.1965	28 58 E	70 58	.1964	CS.6
Lemolo	49 00	122 07	1905.6	23 09.0 E	71 47.5	.1861	23 07 E	71 48	.1860	CS.6
Sumas	49 00	122 16	1905.6	23 46.8 E	71 38.1	.1892	23 45 E	71 38	.1892	CS.6
Blaine	49 00	122 44	1905.5	24 21.6 E	71 58.6	.1875	24 20 E	71 59	.1875	CS.6
Point Roberts	48 59	122 58	1860.0	22 39 E	71 45.6	.1896	24 15 E	71 26	.1861	CS.d1‡
Do.	49 00	123 04	1905.6	24 32.9 E	71 36.1	.1876	24 31 E	71 37	.1876	CS.6

WEST VIRGINIA

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Princeton	37 22	81 07	1900.4	1 23.1 W	68 50.2	.2147	1 36 W	68 54	.2134	CS.d2
Welch	37 26	81 35	1900.4	2 20.4 W	68 32.6	.2182	2 32 W	68 37	.2169	CS.d2
Baileysville	37 36	81 40	1900.4	1 42.4 W	68 55.7	.2156	1 54 W	69 00	.2143	CS.d2
Hinton	37 40	80 53	1900.3	1 24.7 W	68 51.5	.2142	1 39 W	68 56	.2129	CS.d2
Williamson	37 40	82 16	1900.4	1 45.8 W	68 54.2	.2161	1 57 W	68 59	.2148	CS.d2
Oceana	37 42	81 38	1900.4	1 26.1 W	69 09.0	.2134	1 39 W	69 13	.2121	CS.d2
Alderson	37 43	80 39	1898.4	1 58.6 W	69 01.6	.2149	2 21 W	69 07	.2132	CS.d2
Beckley	37 47	81 12	1900.3	1 48.2 W	69 02.8	.2129	2 02 W	69 07	.2116	CS.d2
Lewisburg	37 48	80 27	1900.3	1 56.2 W	69 09.0	.2116	2 12 W	69 13	.2103	CS.d2
Logan	37 51	81 59	1900.4	0 55.1 W	69 13.0	.2107	1 07 W	69 17	.2094	CS.d2
Dunlow	38 02	82 26	1898.4	1 11.4 W	69 23.0	.2120	1 28 W	69 28	.2103	CS.d2

* Local disturbance.
† Boundary Survey, R. W. Haig, observer; Phil. Trans. R. S., 1864; revised results, 1900.
‡ U. S. Northwest Boundary Commission; J. S. Harris, observer; revised results, 1900.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

WEST VIRGINIA—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c.g.s.*	° ′	° ′	*c.g.s.*	
Fayetteville	38 03	81 06	1900.4	2 01.6 W	69 19.6	.2100	2 15 W	69 24	.2087	CS.d2
Madison	38 04	81 48	1900.5	1 24.6 W	69 13.3	.2118	1 38 W	69 17	.2105	CS.d2
Marlington	38 13	80 06	1900.5	1 47.2 W	69 30.1	.2096	2 02 W	69 34	.2084	CS.d2
Wayne	38 13	82 26	1898.4	0 44.6 W	69 32.0	.2116	1 00 W	69 37	.2099	CS.d2
Summersville	38 17	80 51	1900.4	1 13.0 W	69 44.8	.2082	1 26 W	69 49	.2069	CS.d2
Hamlin	38 17	82 06	1900.5	1 50.6 W	69 31.8	.2117	2 02 W	69 36	.2104	CS.d2
Charleston	38 21	81 38	1900.4	2 06.7 W	69 32.4	.2095	2 20 W	69 36	.2082	CS.d2
Camden on Gauley	38 22	80 35	1900.5	- ----	69 37.3	.2095	- --	69 41	.2082	CS.2
St. Albans, E. base	38 23	81 48	1893.1	1 06.7 W	-- ----	----	1 45 W	-- --	----	CS.d
St. Albans, W. base	38 23	81 50	1893.1	1 34.5 W	-- ----	----	2 13 W	-- --	----	CS.d
Ryan	38 24	81 48	1892.9	1 10.8 W	-- ----	----	1 50 W	-- --	----	CS.d
Huntington	38 26	82 27	1898.4	0 51.2 W	70 10.8	.2067	1 07 W	70 16	.2051	CS.d2
Addison	38 28	80 24	1900.5	2 26.2 W	69 46.1	.2078	2 40 W	69 50	.2065	CS.d2
Clay	38 28	81 05	1900.4	1 15.9 W	69 51.4	.2068	1 30 W	69 56	.2055	CS.d2
Mingo	38 29	80 03	1900.5	2 30.0 W	69 49.4	.2062	2 44 W	69 53	.2049	CS.d2
Travellers Repose	38 32	79 47	1900.5	2 34.6 W	69 54.7	.2060	2 48 W	69 57	.2046	CS.d2
Winfield	38 32	81 55	1904.6	1 44.0 W	69 54.4	.2061	1 46 W	69 55	.2060	CS.5
Cave	38 33	79 27	1900.4	2 54.9 W	69 53.3	.2056	3 10 W	69 56	.2043	CS.d2
Franklin	38 39	79 20	1900.4	2 56.2 W	69 59.3	.2050	3 11 W	70 02	.2037	CS.d2
Pickens	38 39	80 13	1898.5	2 45.8 W	70 02.7	.2072	3 07 W	70 08	.2055	CS.d2
Sutton	38 39	80 43	1898.5	2 16.3 W	69 54.4	.2082	2 36 W	69 59	.2065	CS.d2
Brushyrun	38 50	79 15	1900.4	3 05.3 W	70 07.9	.2037	3 20 W	70 11	.2024	CS.d2
Beverly	38 50	79 53	1898.6	2 45.3 W	70 00.6	.2047	3 06 W	70 06	.2031	CS.d2
Ripley	38 50	81 43	1900.4	1 39.2 W	70 14.6	.2048	1 52 W	70 18	.2035	CS.d2
Point Pleasant	38 50	82 09	1864.1	1 34.9 E	-- ----	----	0 52 W	-- --	----	CS.d
Glebe	38 59	79 13	1900.4	3 19.3 W	70 13.2	.2033	3 34 W	70 17	.2019	CS.d2
Buckhannon	38 59	80 14	1898.5	3 00.0 W	70 05.8	.2058	3 18 W	70 10	.2042	CS.d2
Weston	39 02	80 28	1898.5	2 31.3 W	70 12.8	.2061	2 50 W	70 17	.2045	CS.d2
Mason City	39 02	82 04	1904.6	0 41.9 W	70 30.7	.2013	0 44 W	70 31	.2012	CS.5
Moorefield	39 04	78 58	1900.4	3 18.6 W	70 24.0	.2017	3 33 W	70 26	.2003	CS.d2
Hendricks	39 04	79 38	1898.6	2 55.3 W	70 17.6	.2028	3 14 W	70 22	.2012	CS.d2
Philippi	39 08	80 03	1898.6	3 27.0 W	70 12.0	.2042	3 45 W	70 16	.2026	CS.d2
Falls	39 10	79 07	1900.4	3 28.9 W	70 27.4	.2015	3 43 W	70 30	.2002	CS.d2
Harrisville	39 11	81 03	1898.5	1 25.8 W	70 19.3	.2037	1 45 W	70 23	.2021	CS.d2
Parkersburg	39 16	81 34	1898.5	1 13.7 W	70 36.4	.2025	1 30 W	70 41	.2009	CS.d2
Charles Town	39 17	77 51	1900.2	4 01.3 W	70 40.0	.1974	4 16 W	70 42	.1961	CS.d2
Clarksburg	39 17	80 20	1898.5	2 49.5 W	70 29.0	.2032	3 09 W	70 33	.2016	CS.d2
West Union	39 18	80 47	1904.6	0 48.0 W	70 41.5	.2008	0 50 W	70 42	.2007	CS.5
Romney	39 21	78 43	1900.2	4 03.6 W	70 37.5	.1997	4 18 W	70 40	.1983	CS.d2
Grafton	39 22	80 01	1898.6	3 29.0 W	70 25.6	.2036	3 48 W	70 30	.2020	CS.d2
Martinsburg	39 27	77 58	1900.2	4 36.8 W	70 28.2	.1998	4 52 W	70 31	.1984	CS.d2
Keyser	39 27	78 59	1898.6	3 29.4 W	70 41.4	.1998	3 49 W	70 45	.1982	CS.d2
Daniel's farm	39 28	79 03	1898.5	3 11.1 W	-- ----	----	3 31 W	-- --	----	MS.II
Kingwood	39 28	79 41	1900.2	3 41.8 W	70 29.3	.2020	3 55 W	70 32	.2006	CS.d2
Paw Paw	39 32	78 26	1899.4	4 10.8 W	70 47.0	.1981	4 29 W	70 50	.1968	CS.d2†
Morgantown	39 38	79 57	1900.5	3 31.8 W	70 53.4	.1997	3 44 W	70 56	.1984	CS.d2
Cameron	39 50	80 34	1864.0	0 24.0 E	-- ----	----	2 23 W	-- --	----	CS.d
Wheeling	40 04	80 44	1898.6	1 01.3 W	71 35.2	.1938	1 18 W	71 39	.1922	CS.d2

WISCONSIN

	° ′	° ′		° ′	° ′	*c.g.s.*	° ′	° ′	*c.g.s.*	
Elkhorn	42 41	88 32	1905.5	1 42.5 E	73 11.4	.1810	1 43 E	73 11	.1811	CS.6
Milwaukee	43 04	87 52	1902.8	3 32.8 E	73 42.0	.1773	3 32 E	73 43	.1769	CS.3
Milwaukee, A	43 04	87 52	1904.8	3 26.4 E	73 42	.1726	3 26 E	73 42	.1726	LS.3E
Madison	43 04	89 25	1905.5	4 54.6 E	73 47.1	.1770	4 55 E	73 47	.1771	CS.5
Prairie du Chien	43 04	91 09	1900.8	5 56.6 E	73 05.6	.1824	5 54 E	73 08	.1816	CS.d2
Richland Center	43 21	90 23	1905.5	5 55.3 E	73 31.5	.1764	5 56 E	73 31	.1765	CS.5
Sheboygan	43 44	87 43	1904.7	2 57.2 E	74 38	.1637	2 57 E	74 38	.1637	LS.3E
Mauston	43 48	90 05	1905.5	5 14.7 E	73 56.5	.1719	5 15 E	73 56	.1720	CS.5
Fond du Lac	43 47	88 28	1905.5	3 25.9 E	73 49.7	.1727	3 26 E	73 49	.1728	CS.6
Montello	43 48	89 18	1905.5	4 34.6 E	74 04.0	.1717	4 35 E	74 04	.1718	CS.5
La Crosse	43 49	91 14	1900.8	5 31.8 E	73 47.3	.1733	5 30 E	73 50	.1726	CS.d2
Manitowoc	44 06	87 40	1904.7	2 44.0 E	74 20	.1678	2 44 E	74 20	.1678	LS.3E

† Joint auspices of U. S. Coast and Geodetic Survey and Maryland Geological Survey.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

WISCONSIN—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c.g.s.*	° ′	° ′	*c.g.s.*	
Alma	44 21	91 48	1893.5	6 50.0 E	-- ----	----	6 27 E	-- --	----	CS.d
Grand Rapids	44 24	89 47	1905.6	5 27.6 E	74 57.8	.1618	5 28 E	74 57	.1619	CS.6
Green Bay	44 30	87 59	1891.6	4 00.9 E	74 47.6	.1654	3 20 E	74 47	.1652	CS.d1
Maxvilla	44 32	91 58	1893.6	6 47.7 E	-- ----	----	6 24 E	-- --	----	CS.d
Maiden Rock	44 33	92 12	1893.5	6 59.1 E	-- ----	----	6 35 E	-- --	----	CS.d
Neillsville	44 34	90 35	1905.6	5 26.7 E	74 27.3	.1684	5 27 E	74 26	.1685	CS.6
Ellsworth	44 43	92 29	1893.5	6 51.9 E	-- ----	----	6 28 E	-- --	----	CS.d
Shawamo	44 47	88 37	1905.7	3 32.2 E	74 55.2	.1626	3 33 E	74 55	.1627	CS.6
Sturgeon Bay	44 48	87 19	1904.7	1 46.4 E	75 23	.1590	1 46 E	75 23	.1590	LS.3E
Chippewa Falls	44 55	91 23	1905.6	6 18.6 E	74 51.1	.1652	6 19 E	74 51	.1653	CS.6
Wausau	44 57	89 38	1905.7	5 59.3 E	75 21.5	.1618	6 00 E	75 21	.1619	CS.6
Marinette	45 04	87 40	1905.7	2 32.8 E	75 11.2	.1611	2 34 E	75 11	.1612	CS.6
Mountain	45 10	88 30	1905.7	2 40.1 E	75 17.1	.1598	2 41 E	75 17	.1599	CS.6
Osceola	45 19	92 41	1905.7	6 11.1 E	74 44.6	.1688	6 11 E	74 44	.1689	CS.6
Prentice	45 32	90 17	1891.6	4 07.3 E	75 03.8	.1607	3 32 E	74 59	.1603	CS.d1
Rhinelander	45 38	89 24	1905.6	0 34.9 E	75 54.9	.1569	0 35 E	75 55	.1570	CS.6
Shell Lake	45 46	91 54	1905.6	4 30.6 E	75 09.0	.1611	4 30 E	75 09	.1611	CS.6
Grantsburg	45 46	92 40	1905.6	9 21.8 E	75 31.2	.1605	9 21 E	75 31	.1606	CS.6
Florence	45 55	88 16	1905.7	2 28.3 E	75 56.7	.1525	2 28 E	75 57	.1525	CS.6
Ashland	46 35	90 55	1905.6	5 39.0 E	76 21.2	.1517	5 39 E	76 21	.1517	CS.6
Superior City	46 40	92 04	1880.6	9 45.4 E	76 26.1	.1504	8 30 E	76 14	.1499	CS.d1
Lake Superior	46 42	91 50	1902.5	8 30 E	-- ----	----	8 29 E	-- --	----	UE.3E
Superior Entry	46 43	92 01	1902.2	7 50 E	-- ----	----	7 49 E	-- --	----	UE.3E
Port Wing	46 47	91 23	1902.0	6 24 E	-- ----	----	6 23 E	-- --	----	UE.3E
Lake Superior	46 48	90 48	1902.5	5 00 E	-- ----	----	4 59 E	-- --	----	UE.3E
Do.	46 51	91 42	1902.5	8 36 E	-- ----	----	8 35 E	-- --	----	UE.3E
Do.	46 52	92 00	1902.5	8 30 E	-- ----	----	8 29 E	-- --	----	UE.3E
Do	46 54	91 06	1902.5	7 36 E	-- ----	----	7 35 E	-- --	----	UE.3E
Do.	46 54	91 45	1902.5	26 24* E	-- ----	----	26 23 E	-- --	----	UE.3E
Do.	46 54	91 54	1902.5	15 36* E	-- ----	----	15 35 E	-- --	----	UE.3E
Presque Isle	46 55	90 37	1901.7	4 34.0 E	-- ----	----	4 32 E	-- --	----	LS.3E
Knife Island	46 57	91 47	1902.0	9 06 E	-- ----	----	9 05 E	-- --	----	UE.3E
York	46 59	90 52	1902.8	4 57.2 E	-- ----	----	4 56 E	-- --	----	LS.3E
South Twin	47 02	90 39	1902.8	4 39.7 E	-- ----	----	4 38 E	-- --	----	LS.3E
Rocky	47 02	90 40	1902.8	4 45.7 E	-- ----	----	4 44 E	-- --	----	LS.3E

WYOMING

	° ′	° ′		° ′	° ′	*c.g.s.*	° ′	° ′	*c.g.s.*	
Sherman	41 08	105 24	1872.6	15 52.6 E	68 53.3	.2193	15 02 E	68 56	.2163	CS.d1
Cheyenne	41 09	104 50	1906.5	14 59.8 E	69 08.6	.2145	14 56 E	69 08	.2148	CS.7
Laramie	41 19	105 36	1878.7	15 07.4 E	-- ----	----	14 42 E	-- --	----	CS.d
Fort Bridger	41 20	110 24	1858.9	19 37 E	68 05	----	17 34 E	68 13	----	CS.d1†
Carter	41 26	110 26	1878.8	17 06.3 E	-- ----	----	17 08 E	-- --	----	CS.d
Green River	41 32	109 28	1905.4	16 49.6 E	68 25.8	.2180	16 48 E	68 26	.2181	CS.5
Point of Rocks	41 43	108 58	1878.8	16 17.8 E	-- ----	----	16 10 E	-- --	----	CS.d
Fort F. Steele	41 47	106 57	1878.7	16 10.1 E	69 00.2	.2170	15 49 E	69 08	.2143	CS.d1
Creston	41 48	107 45	1878.8	16 03.8 E	-- ----	----	15 48 E	-- --	----	CS.d
Rock Creek	41 50	105 51	1878.7	15 45.8 E	-- ----	----	15 21 E	-- --	----	CS.d
Wheatland	42 03	104 57	1905.6	15 09.4 E	69 50.1	.2081	15 08 E	69 50	.2082	CS.6
Cokeville	42 04	110 59	1905.4	17 52.0 E	68 39.0	.2161	17 50 E	68 39	.2162	CS.5
Fort Laramie	42 12	104 31	1858.7	-- ----	70 03	----	-- --	70 11	----	CS.1†
Little Sandy Creek	42 15	109 40	1858.8	20 44 E	69 00	----	18 37 E	69 08	----	CS.d1†
South Pass	42 28	108 47	1906.5	16 19.1 E	69 00.5	.2137	16 15 E	68 59	.2140	CS.7
Sweet Water River	42 30	108 35	1858.8	19 56 E	69 35	----	17 34 E	69 43	----	CS.d1†
Myersville	42 34	108 08	1906.6	16 45.6 E	69 41.2	.2083	16 41 E	69 40	.2086	CS.7
La Bonte River	42 35	105 22	1858.8	18 23 E	70 15	----	15 46 E	70 23	----	CS.d1†
Sweet Water River	42 38	107 25	1858.8	19 41 E	69 53	----	17 16 E	70 01	----	CS.d1†
Greasewood Creek	42 40	107 07	1858.8	20 24 E	70 01	----	18 33 E	70 09	----	CS.d1†
Douglas	42 44	105 22	1905.6	15 28.3 E	70 22.2	.2030	15 27 E	70 22	.2031	CS.6
Lander	42 50	108 40	1906.5	16 59.4 E	69 56.2	.2065	16 55 E	69 55	.2068	CS.7
Casper	42 51	106 20	1906.5	15 57.6 E	70 28.1	.2045	15 54 E	70 27	.2048	CS.6
West of Deer Creek	42 53	105 57	1858.8	18 28 E	70 29	----	15 51 E	70 37	----	CS.d1†

* Local disturbance.

† J. H. Simpson, observer; J. B. Stone's Mag. Var., New York, 1878. The observed declinations require to be reduced by 2° on account of index correction.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

WYOMING—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Powder River	43 02	106 59	1906.5	17 02.3 E	70 17.5	.2056	16 58 E	70 16	.2059	CS.7
Shoshone	43 14	108 05	1906.6	17 25.2 E	70 08.5	.2049	17 21 E	70 07	.2052	CS.7
Thermopolis	43 41	108 13	1906.6	17 39.0 E	70 39.2	.2025	17 34 E	70 38	.2028	CS.7
Newcastle	43 51	104 12	1905.6	15 21.0 E	71 36.3	.1937	15 20 E	71 36	.1938	CS.6
Mayoworth	43 51	106 47	1906.6	16 42.1 E	70 59.8	.1979	16 38 E	70 59	.1982	CS.7
Worland	44 02	107 59	1906.6	17 03.4 E	70 57.9	.1989	16 59 E	70 57	.1991	CS.7
Meeteetsee	44 10	108 50	1906.6	18 01.6 E	70 50.2	.2000	17 57 E	70 49	.2002	CS.7
Valley	44 11	109 33	1906.6	18 05.2 E	70 28.4	.2026	18 01 E	70 27	.2028	CS.7
Gillette	44 17	105 29	1905.6	16 32.1 E	71 38.2	.1935	16 31 E	71 38	.1936	CS.6
Buffalo	44 22	106 41	1906.6	17 16.4 E	71 33.8	.1930	17 12 E	71 33	.1932	CS.7
Sundance	44 25	104 23	1906.7	14 37.0 E	72 04.5	.1901	14 33 E	72 03	.1903	CS.7
Basin	44 25	108 05	1906.6	18 01.9 E	71 11.9	.1969	17 57 E	71 11	.1971	CS.7
Cody	44 33	109 00	1906.6	18 26.3 E	71 22.4	.1941	18 22 E	71 21	.1943	CS.7
Yellowstone Lake, A*	44 33	110 24	1892.5	20 57.2 E	72 17.4	.1855	21 18 E	72 22	.1844	CS.d1
Do. B*	44 33	110 24	1892.5	16 43.4 E	-- ----	----	17 04 E	-- --	----	CS.d
Arvada	44 40	106 07	1906.7	17 14.0 E	71 54.3	.1903	17 10 E	71 53	.1905	CS.7
Sheridan	44 50	106 58	1905.6	16 59.2 E	71 51.9	.1903	16 57 E	71 52	.1904	CS.6
Do.	44 51	106 58	1906.6	17 05.5 E	71 52.0	.1900	17 01 E	71 51	.1902	CS.7
Lovell	44 51	108 23	1906.6	18 05.0 E	71 39.9	.1921	18 00 E	71 38	.1923	CS.7
NE. corner Wyoming	45 00	104 03	1882.5	15 39.0 E	72 41.0	.1889	15 20 E	72 46	.1871	CS.d1
Little Missouri River	45 00	104 25	1882.5	16 11.2 E	72 43.7	.1901	15 52 E	72 43	.1882	CS.d1
Mileposts 283 & 284	45 00	105 20	1882.5	16 54.9 E	72 14.0	.1940	16 40 E	72 10	.1922	CS.d1
Milepost 185	45 00	107 21	1882.5	17 57.4 E	72 10.4	.1936	17 55 E	72 07	.1918	CS.d1
Milepost 42	45 00	110 12	1882.6	19 31.2 E	71 17.5	.1984	19 42 E	17 15	.1965	CS.d1

BRITISH NORTH AMERICA

GROUP I.—*South of parallel 52° N. and between meridians 60° and 75° W.*

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Negro Harbor	43 33	65 25	1859.5	17 20 W	-- ----	----	19 03 W	-- --	----	CO.d
Shelbourne Lt.	43 37	65 16	1859.5	17 47 W	-- ----	----	19 30 W	-- --	----	CO.d
Yarmouth	43 50	66 07	1881.9	17 49.4 W	74 35	.1602	18 29 W	73 52	.1641	CS.d1
Lunenburg	44 20	64 20	1902.5	20 00 W	-- ----	----	20 07 W	-- --	----	CO.†
Weymouth	44 24	66 00	1881.9	18 43.4 W	74 45	.1596	19 23 W	74 02	.1634	CS.d1
Pt. Pleasant	44 37	63 34	1904.7	21 02 W	73 58	.1624	21 02 W	73 58	.1624	CO.†
Do.	44 37	63 34	1905.7	20 47.3 W	73 59.6	.1619	20 45 W	74 00	.1619	CI.
Black Point	44 38	64 01	1905.7	21 01.0 W	73 59.9	.1617	20 59 W	74 00	.1617	CI.
Halifax	44 40	63 35	1881.8	-- ----	74 29	.1595	-- --	73 48	.1633	CS.do
Do.	44 40	63 35	1896.5	20 38.5 W	73 54.0	.1632	21 01 W	73 49	.1632	MI.d1
Lawrencetown	44 42	63 22	1881.5	21 15 W	-- ----	----	21 44 W	-- --	----	CO.d
Annapolis	44 44	65 31	1881.9	19 26.8 W	74 53	.1581	20 03 W	74 12	.1619	CS.d1
Waverly	44 47	63 36	1881.8	21 01 W	-- ----	----	21 30 W	-- --	----	CO.d
Uniacke	44 52	63 53	1901.5	21 07 W	-- ----	----	21 17 W	-- --	----	CO.†
Windsor	45 00	64 08	1881.9	20 42.3 W	74 49	.1578	21 11 W	74 08	.1616	CS.d1
Barnhart I.	45 00	74 48	1871.5	10 22 W	-- ----	----	12 04 W	-- --	----	CO.d
Cornwall Canal	45 00	74 55	1869.5	9 30 W	-- ----	----	11 20 W	-- --	----	CO.d
L. Memphremagog	45 01	72 15	1845.5	-- ----	76 08.6	----	-- --	74 47	----	CO.1
Stanstead	45 02	72 10	1842.7	-- ----	76 19.2	.1486	-- --	74 57	.1566	JL.83
Do.	45 02	72 10	1845.5	11 33 W	-- ----	----	15 21 W	-- --	----	CO.d
Cornwall	45 02	74 50	1845.5	-- ----	76 16.4	.1509	-- --	74 56	.1590	CY.1
Country Harbor	45 08	61 40	1902.5	22 40 W	-- ----	----	22 47 W	-- --	----	CO.†
Chamcook	45 08	67 05	1859.8	17 35.7 W	76 09.4	.1494	19 20 W	74 42	.1576	CS.d1
Black Rock	45 10	64 46	1856.5	18 44 W	-- ----	----	20 06 W	-- --	----	CO.d
Kentville	45 12	64 46	1847.5	-- ----	75 46	----	-- --	74 12	----	CO.1
Mispeck Pt.	45 12	66 00	1859.5	18 16 W	-- ----	----	19 56 W	-- --	----	CO.d
St. John	45 15	66 07	1905.7	20 43.0 W	74 23.7	.1610	20 41 W	74 23	.1610	CI.
Prospect Hill	45 15	71 14	1845.5	12 08.5 W	-- ----	----	15 50 W	-- --	----	CO.d
Station	45 16	66 38	1892.5	20 00 W	-- ----	----	-- --	-- --	----	CO.†
St. Johns	45 17	73 15	1842.7	-- ----	77 00.1	----	-- --	75 38	----	JL.83
Highland Boundary	45 18	71 05	1845.5	13 20 W	-- ----	----	16 53 W	-- --	----	CO.d
Arnold River	45 20	70 55	1845.5	13 30 W	-- ----	----	17 03 W	-- --	----	CO.d
Isle d'Urval	45 25	73 44	1843.3	-- ----	77 03.1	.1410	-- --	75 41	.1491	JL.83
Dead River	45 26	70 48	1845.5	13 10 W	-- ----	----	16 34 W	-- --	----	CO.d

* Local disturbance.

† Compiled by S. M. Dixon in Trans. Nova Scotian Inst. of Science, Volume XI, pt. 2, pp. 245–259

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

BRITISH NORTH AMERICA—Continued

GROUP I.—*South of parallel 52° N. and between meridians 60° and 75° W.*—Continued.

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int	
	° ′	° ′		° ′	° ′	*c.g.s.*	° ′	° ′	*c.g.s.*	
Isle Madame	45 28	61 03	1862.5	-- --	75 31	----	-- --	74 08	----	CO.1
Arichat, I. Madame	45 30	61 01	1881.8	23 25.9 W	74 43	.1584	23 55 W	74 03	.1622	CS.d1
Montreal	45 30	73 35	1896.8	14 19.0 W	75 40.2	.1507	14 50 W	75 34	.1517	CS.d1
Do.	45 30	73 35	1905.7	14 40.1 W	75 38.2	.1512	14 37 W	75 39	.1512	CI.
Do.	45 30	73 35	1906.7	-- ----	75 38.1	----	-- --	75 39	----	CI.
Highland Boundary	45 31	70 43	1845.5	13 25 W	-- ----	----	16 43 W	-- --	----	CO.d
La Combe Farm	45 33	74 09	1843.3	8 26 W	76 50.6	.1454	13 30 W	75 29	.1535	JL.83
McAdam Junction	45 34	67 20	1906.7	19 02.3 W	75 12.1	.1532	18 59 W	75 14	.1532	CI.
Isle Madame	45 35	60 56	1848.5	22 30 W	-- ----	----	24 36 W	-- --	----	CO.d
Riviere a la Graisse	45 36	74 22	1843.5	8 26 W	-- ----	----	13 30 W	-- --	----	JL.83
Carillon	45 36	74 30	1843.3	8 41 W	-- ----	----	13 45 W	-- --	----	JL.83
Hawkesbury	45 36	74 37	1906.7	11 51.3 W	76 03.1	.1500	11 44 W	76 04	.1500	CI.
Highland Boundary	45 37	70 37	1845.5	13 37 W	-- ----	----	16 55 W	-- --	----	CO.d
Pte. du Chene	45 37	74 50	1843.3	7 28 W	76 55.4	.1421	12 32 W	75 33	.1502	JL.83
Merigornish Hbr.	45 38	62 27	1842.5	20 15 W	-- ----	----	22 55 W	-- --	----	CO.d
Richmond	45 41	72 03	1876.6	16 59.6 W	75 47.4	.1558	18 07 W	74 57	.1609	NA.d1
Pictou Harbor	45 42	62 40	1841.5	20 19 W	-- ----	----	23 05 W	-- --	----	CO.d
Highland Boundary	45 42	70 28	1844.5	13 50 W	-- ----	----	17 08 W	-- --	----	CO.d
Kingsey	45 46	72 12	1842.7	-- ----	77 40.0	.1348	-- --	76 18	.1428	JL.83
St. Jerome	45 46	73 59	1906.7	15 49.2 W	76 08.2	.1487	15 42 W	76 10	.1486	CI.
Wallace Harbor	45 49	63 26	1840.5	19 50 W	-- ----	----	22 41 W	-- --	----	CO.d
Louisburg	45 53	60 00	1862.5	-- ----	76 00	----	-- --	74 37	----	CO.1
Pugwash Harbor	45 53	63 41	1840.5	19 40 W	-- ----	----	22 31 W	-- --	----	CO.d
Drummondville	45 53	72 34	1842.5	12 28 W	-- ----	----	17 04 W	-- --	----	JL.d
Fredericton	45 55	66 38	1847.5	-- ----	76 59	----	-- --	75 31	----	CO.1
Sorel	46 02	73 03	1842.7	-- ----	77 16.4	.1397	-- --	75 54	.1477	JL.83
Do.	46 03	73 00	1842.5	11 22 W	-- ----	----	15 58 W	-- --	----	JL.d
Sydney	46 08	60 14	1905.7	25 05.0 W	-- ----	----	25 03 W	-- --	----	CI.
Do.	46 09	60 11	1905.5	24 48 W	74 25	.1560	24 46 W	74 25	.1560	FN.
Do.	46 09	60 12	1896.5	24 53.6 W	74 38.6	.1547	24 50 W	74 35	.1547	MI.d1
Do.	46 09	60 12	1896.7	24 55.3 W	74 37	----	24 51 W	74 34	----	MI.d1
Do.	46 09	60 15	1905.7	25 09.6 W	74 23.7	.1566	25 08 W	74 24	.1566	CI.
Woodstock	46 09	67 35	1847.5	-- ----	77 05	----	-- --	75 37	----	CO.1
Cape Tormentine	46 10	63 50	1840.5	20 00 W	-- ----	----	22 52 W	-- --	----	CO.d
Georgetown	46 11	62 33	1843.5	21 58 W	-- ----	----	24 32 W	-- --	----	CO.d
Charlottetown	46 14	63 08	1898.4	23 40 W	-- ----	----	23 58 W	-- --	----	BN.01
Do.	46 14	63 08	1900.3	24 05 W	-- ----	----	24 17 W	-- --	----	BN.05
Do.	46 14	63 08	1902.3	23 42 W	-- ----	----	23 49 W	-- --	----	BN.05
Do.	46 14	63 08	1907.5	23 33 W	-- ----	----	23 28 W	-- --	----	BN.
Carleton Head	46 15	63 43	1840.5	20 18 W	-- ----	----	23 09 W	-- --	----	CO.d
Shediac Island	46 15	64 23	1839.5	19 59 W	-- ----	----	22 59 W	-- --	----	CO.d
Labelle	46 16	74 33	1906.7	15 24.6 W	76 29.8	.1432	15 18 W	76 31	.1431	CI.
Cape Breton	46 16	60 08	1862.5	-- ----	76 03	----	-- --	74 40	----	CO.1
Do.	46 17	60 23	1857.5	24 40 W	-- ----	----	25 50 W	-- --	----	CO.d
Three Rivers	46 21	72 33	1906.7	15 26.1 W	75 57.1	.1482	15 21 W	75 59	.1482	CI.
Becancour	46 22	71 33	1876.6	15 43.5 W	76 54.5	.1438	16 37 W	76 03	.1488	NA.d1
Bedeque Harbor	46 24	63 48	1841.5	20 12 W	-- ----	----	22 58 W	-- --	----	CO.d
River St. Croix	46 25	70 03	1844.5	15 02 W	-- ----	----	18 14 W	-- --	----	CO.d
Cape Turner	46 30	63 20	1845.5	21 41 W	-- ----	----	24 04 W	-- --	----	CO.d
Richmond Bay	46 34	63 43	1845.5	21 00 W	-- ----	----	23 23 W	-- --	----	CO.d
Cascumpeque	46 48	64 03	1845.5	21 10 W	-- ----	----	23 33 W	-- --	----	CO.d
Quebec	46 48	71 14	1879.7	17 13.7 W	76 45.1	.1431	17 55 W	75 59	.1474	CS.d1
Do.	46 48	71 14	1906.2	17 53.0 W	76 01.1	.1477	17 50 W	76 02	.1477	CI.
St. Thomas	46 59	70 33	1876.6	17 50.1 W	77 11.7	.1394	18 38 W	76 20	.1451	NA.d1
Station	47 00	67 30	1875.5	21 00 W	-- ----	----	21 50 W	-- --	----	CO.†
Miramichi	47 06	65 04	1857.4	21 24 W	-- ----	----	22 42 W	-- --	----	CO.d
Edmunston	47 15	68 20	1876.7	-- ----	77 18.3	.1369	-- --	76 26	.1421	NA.1
Edmunston, A & B	47 23	68 20	1906.8	21 07.7 W	76 18.8	.1423	21 04 W	76 21	.1423	CI.
Lake Edward	47 40	72 15	1906.7	19 34.4 W	76 54.2	.1389	19 30 W	76 56	.1389	CI.
Riviere du Loup, Pt.	47 50	69 33	1906.7	20 38.7 W	76 34.1	.1408	20 35 W	76 36	.1409	CI.
Riviere du Loup, en bas	47 51	69 25	1876.7	20 38.8 W	77 31.6	.1359	21 28 W	76 41	.1417	NA.d1
NE. Boundary (claimed before 1842)	48 00	67 47	1859.5	19 30 W	-- ----	----	21 00 W	-- --	----	SS.d‡

† Compiled hy S. M. Dixon, Trans. Nova Scotian Inst. of Science, vol. XI, pt. 2, pp. 245–259.
‡ State survey.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

BRITISH NORTH AMERICA—Continued

GROUP I.—*South of parallel 52° N. and between meridians 60° and 75° W.*—Continued.

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′			° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Tadousac	48 08	69 43	1887.6	19 27.5 W	-- ----	----	19 59 W	-- --	----	FN.d
Alphonse	48 21	70 54	1906.7	21 54 W	77 56.1	.1279	-- --	77 57	.1279	CI.
Chicoutimi	48 25	71 03	1906.7	20 17.1 W	77 36.9	.1334	20 14 W	77 38	.1335	CI.
Roberval	48 31	72 14	1906.7	19 44.5 W	77 33.5	.1329	19 41 W	77 35	.1329	CI.
Peribonka	48 46	72 05	1906.7	20 55.7 W	77 27.4	.1328	20 52 W	77 29	.1329	CI
Baie de Gaspé	48 49	64 28	1887.6	25 08 W	-- ----	----	25 37 W	-- --	----	FN.d
Mistassini	48 54	72 14	1906.7	19 20.5 W	78 19.4	.1250	19 17 W	78 21	.1250	CI.
Anticosti	49 05	61 42	1892.6	28 41.0 W	-- ----	----	28 34 W	-- --	----	BN.01
Baie des Sept Iles	50 13	66 25	1887.6	20 13 W	-- ----	----	-- --	-- --	----	FN.d

GROUP II.—*South of parallel 52° N. and between meridians 75° and 90° W.*

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Bois Blanc I.	42 05	83 07	1906.0	1 52.2 W	73 02	.1789	1 50 W	73 02	.1789	LS.
Amherstburg	42 06	83 03	1845.8	- ----	73 30.0	.1802	- --	72 57	.1794	JL.83
Rondeau Harbor	42 16	81 52	1896.8	2 07.1 W	-- ----	----	2 25 W	-- --	----	CO.d
Chatham	42 24	82 10	1906.8	2 13.8 W	73 33.4	.1749	2 10 W	73 33	.1752	CI.
Long Point	42 34	80 08	1896.8	3 55.0 W	-- ----	----	4 13 W	-- --	----	CO.d
Turkey Point	42 39	80 20	1896.4	3 48.0 W	-- ----	----	4 08 W	-- --	----	CO.d
Simcoe	42 51	80 18	1906.8	4 39.7 W	74 04.6	.1701	4 35 W	74 05	.1704	CI.
Renton	42 52	80 13	1905.8	5 20 W	-- ----	----	5 18 W	-- --	----	CO.†
Canfield Jc.	42 58	79 44	1905.8	5 37 W	-- ----	----	5 35 W	-- --	----	CO.†
Sarnia	42 58	82 22	1845.8	- ----	74 15.7	.1727	- --	73 35	.1732	JL.83
Hyde Park Jc.	42 59	81 19	1906.8	3 26.8 W	73 56.6	.1704	3 22 W	73 57	.1707	CI.
Welland	43 00	79 14	1905.8	5 34 W	-- ----	----	5 32 W	-- --	----	CO.†
Niagara Falls	43 04	79 09	1845.8	- ----	74 46.8	.1665	- --	74 01	.1693	JL.83
St. Catherines	43 08	79 16	1905.8	6 35 W	-- ----	----	6 33 W	-- --	----	CO.†
Stoney Creek	43 13	79 46	1905.8	5 13 W	-- ----	----	5 11 W	-- --	----	CO.†
Cape Ipperwash	43 13	82 00	1860.4	0 03.3 E	74 46	.1675	3 00 W	74 02	.1698	LS.d1
Kettle Point	43 13	82 01	1905.8	3 43.6 W	74 03	.1680	3 41 W	74 03	.1680	LS.
Niagara Village	43 15	79 08	1843.2	- ----	74 45.6	.1679	- --	73 59	.1707	JL.83
Hamilton	43 16	79 50	1843.0	- ----	74 55.4	.1658	- --	74 09	.1686	JL.83
Berlin	43 27	80 31	1906.8	5 27.9 W	74 23.3	.1666	5 23 W	74 23	.1668	CI.
Goderich	43 44	81 43	1860.6	1 42.0 W	75 02	.1648	4 45 W	74 18	.1671	LS.d1
Do.	43 44	81 44	1905.8	4 20.7 W	74 29	.1645	4 19 W	74 29	.1645	LS.
Do.	43 45	81 39	1901.6	4 11.8 W	-- ----	----	4 19 W	-- --	----	CO.‡
Do.	43 45	81 41	1845.8	- ----	75 04.8	.1642	- --	74 22	.1667	JL.83
Do.	43 46	81 42	1906.7	4 15.5 W	74 26.5	.1660	4 11 W	74 26	.1660	CI.
Agincourt (Mag. Obsy.)	43 47	79 16	1905.0	5 40.3 W	74 33.8	.1643	5 40 W	74 34	.1643	CO.
Do.	43 47	79 16	1906.8	5 47.0 W	74 35.6	.1638	5 42 W	74 36	.1638	CI.
Coburg	43 56	78 10	1843.3	- ----	75 27.2	----	- --	74 41	----	JL.83.
Belleville	44 09	77 25	1843.3	- ----	77 01.0	----	- --	76 15	----	JL.83
Kincardine	44 11	81 38	1905.8	5 12.4 W	74 36.0	.1641	5 10 W	74 36	.1641	LS.
Kingston	44 13	76 29	1842.9	- ----	77 15.0	.1531	- --	76 14	.1567	JL.83
Kingston jc.	44 15	76 29	1906.7	13 26.0 W	74 57.3	.1621	13 20 W	74 57	.1620	CI.
Peterborough	44 18	78 18	1906.7	8 16.1 W	74 42.9	.1647	8 11 W	74 43	.1647	CI.
Barrie	44 21	79 41	1843.1	- ----	75 49.9	----	- --	75 08	----	JL.83
Southampton	44 30	81 23	1905.8	6 04.5 W	75 00	.1584	6 02 W	75 00	.1584	LS.
Brockville	44 32	75 41	1845.4	- ----	76 18.9	.1496	- --	75 16	.1532	CY.1
Prescot	44 35	75 30	1843.3	- ----	78 42.5	----	- --	77 40	----	JL.83
Owen Sound	44 35	80 57	1906.7	5 45.8 W	75 10.7	.1590	5 41 W	75 11	.1590	CI.
Penetanguishene	44 47	79 55	1906.7	6 58.9 W	75 27.9	.1556	6 54 W	75 28	.1556	CI.
Do.	44 47	79 58	1843.1	- ----	76 14.6	.1544	- --	75 30	.1565	JL.83
Kinmount	44 48	78 39	1906.7	8 22.7 W	75 18.2	.1558	8 18 W	75 18	.1558	CI.
Penetanguishene	44 49	80 01	1844.9	- ----	76 20.1	.1533	- --	75 36	.1554	JL.83
Williamsburg	44 55	75 07	1843.3	- ----	76 30.8	.1502	- --	75 20	.1555	JL.83
Stokes Bay	44 59	81 22	1905.8	6 14.8 W	75 32	.1538	6 13 W	75 32	.1538	LS.
Aylmer	45 15	75 58	1843.3	- ----	76 41	.1470	- --	75 40	.1534	JL.83
Cove Island	45 20	81 43	1860.7	3 58.6 W	76 32	.1506	6 56 W	75 50	.1530	LS.d1
Do.	45 20	81 44	1898.5	6 53.0 W	-- ----	----	7 08 W	-- --	----	CO.‡
Do.	45 20	81 44	1905.7	7 02.4 W	75 44	.1553	7 01 W	75 44	.1553	LS.

† W. B. Anderson; observer, communicated in MS.
‡ F. Anderson, observer; communicated in MS.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

BRITISH NORTH AMERICA—Continued

GROUP II.—*South of parallel 52° N. and between meridians 75° and 90° W.*—Continued.

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c.g.s.*	° ′	° ′	*c.g.s.*	
Ottawa	45 21	75 42	1856.6	-- ----	76 42	----	-- --	75 23	----	AA.1
Do.	45 21	75 42	1875.8	10 00.5 W	-- ----	----	11 31 W	-- --	----	CO.d
Do.	45 24	75 43	1906.8	12 44.4 W	75 39.1	.1522	12 37 W	75 40	.1521	CI.
Chat Falls	45 26	76 32	1843.3	-- ----	75 07	.1648	-- --	74 06	.1700	JL.83
Templeton	45 29	75 36	1843.3	8 28 W	-- ----	----	13 32 W	-- --	----	JL.83
Renfrew	45 29	76 40	1906.7	11 13.6 W	75 46.7	.1513	11 08 W	75 48	.1512	CI.
Madawaska	45 30	77 59	1906.7	9 05.2 W	75 54.0	.1503	9 00 W	75 55	.1503	CI.
Fox's Point	45 32	75 22	1843.3	- ----	76 35.3	.1484	- --	75 13	.1548	JL.83
Emsdale	45 32	79 18	1906.7	7 52.2 W	75 48.7	.1520	7 47 W	75 49	.1519	CI.
Port du Fort *	45 36	76 53	1843.3	10 11 W	-- ----	----	15 01 W	-- --	----	JL.83
Alfred Township	45 37	75 00	1843.3	6 58 W	-- ----	----	12 02 W	-- --	----	JL.83
Great Duck I.	45 38	82 56	1905.7	2 22.8 W	76 24	.1461	2 21 W	76 24	.1461	LS.
Providence Bay	45 40	82 17	1905.7	4 26.4 W	76 00	.1513	4 24 W	76 00	.1512	LS.
Grande Calumet	45 45	76 40	1843.3	- ----	76 44.4	.1464	- --	75 43	.1513	JL.83
Magnetic Shoal *	45 50	83 19	1905.7	5 46 W	-- ----	----	5 44 W	-- --	----	LS.
Cockburn I.*	45 52	83 21	1905.7	2 11.3 E	77 00	.1421	2 09 E	77 00	.1420	LS.
Mississagi Straits	45 54	83 14	1905.7	4 06.4 W	76 40	.1421	4 04 W	76 40	.1420	LS.
Fort Coulonge	45 55	76 45	1843.4	- ----	77 29.7	.1389	- --	76 28	.1438	JL.83
Pte. au Croix	45 56	81 02	1843.4	- ----	76 31.3	.1494	- --	75 48	.1513	JL.83
Ricollet's Fall *	45 57	80 30	1843.4	- ----	76 45.4	.1493	- --	76 02	.1514	JL.83
George's Island	45 57	81 32	1843.4	1 26 W	-- ----	----	5 26 W	-- --	----	JL.83
Little Current	45 59	81 55	1900.8	4 23.4 W	-- ----	----	4 34 W	-- --	----	CO.3E
Chalk River	46 00	77 26	1906.8	10 20.2 W	76 23.5	.1461	10 14 W	76 24	.1460	CI.
Frazer Bay	46 00	81 40	1843.4	-- ----	77 05.6	.1432	- --	76 26	.1451	JL.83
Beverly I.	46 00	82 15	1886.8	5 02.0 W	-- ----	----	6 04 W	-- --	----	CO.3E
Bedford I.	46 02	82 01	1885.7	3 43.0 W	-- ----	----	4 45 W	-- --	----	CO.3E
Pte. Baptême	46 05	77 26	1843.4	- ----	77 19.1	.1394	- --	76 18	.1434	JL.83
French River *	46 05	80 20	1843.4	5 32 W	-- ----	----	9 37 W	-- --	----	JL.83
Ft. la Cloche	46 07	82 03	1843.4	2 10 W	-- ----	----	6 04 W	-- --	----	JL.83
Do.	46 07	82 03	1844.9	- ----	76 50.2	----	- --	76 12	----	JL.83
Aird Island	46 09	82 22	1887.8	3 44 W	-- ----	----	4 44 W	-- --	----	CO.3E
Grant Island	46 09	83 18	1886.5	2 43 W	-- ----	----	3 48 W	-- --	----	CO.3E
Snake Island	46 10	82 40	1843.4	- ----	77 05.5	.1427	- --	76 28	.1446	JL.83
R. Mississaqui	46 10	83 02	1843.4	2 13 E	-- ----	----	6 05 W	-- --	----	JL.83
Lake Nipissing	46 11	79 48	1843.4	- ----	77 09.5	.1420	- --	76 27	.1445	JL.83
Algoma	46 11	82 50	1906.8	4 35.4 W	76 24.0	.1467	4 31 W	76 25	.1466	CI.
Cranberry Bay	46 11	82 53	1843.4	0 25 W	-- ----	----	4 17 W	-- --	----	JL.83
Port des deux Joachims	46 12	77 40	1843.4	- ----	77 03.8	.1428	- --	76 04	.1468	JL.83
Aberdeen	46 14	77 50	1843.4	5 33 W	-- ----	----	9 49 W	-- --	----	JL.83
Roche Capitaine	46 15	77 45	1843.4	5 09 W	-- ----	----	9 25 W	-- --	----	JL.83
Trou Portage	46 15	78 16	1843.4	- ----	77 24.4	.1399	- --	76 28	.1439	JL.83
Little River	46 15	78 44	1843.4	- ----	77 28.5	.1395	- --	76 32	.1435	JL.83
St. Joseph I., Gravel Pt.	46 16	83 50	1889.4	2 36 W	-- ----	----	3 28 W	-- --	----	CO.d
St. Joseph I., Hilton	46 16	83 54	1889.4	2 38 W	-- ----	----	3 30 W	-- --	----	CO.d
Tessalon Pt.	46 17	83 33	1843.4	0 11 W	76 59.3	.1455	4 03 W	76 23	.1476	JL.83
Mattawa	46 18	78 42	1843.4	3 36 W	-- ----	----	7 52 W	-- --	----	JL.83
Trout Lake	46 18	79 13	1843.4	- ----	77 21.7	.1407	- --	76 37	.1447	JL.83
P. Grande Vase W.	46 18	79 22	1843.4	4 53 W	-- ----	----	9 09 W	-- --	----	JL.83
North Bay	46 19	79 26	1906.8	8 44.2 W	76 37.4	.1442	8 39 W	76 38	.1442	CI.
P. Grande Vase	46 20	79 20	1843.4	3 15 W	-- ----	----	7 31 W	-- --	----	JL.83
Bear Camp	46 20	83 50	1843.4	0 02.5 E	-- ----	----	3 50 W	-- --	----	JL.83
Campement d'Ours	46 20	83 56	1845.5	0 03 E	-- ----	----	3 49 W	-- --	----	JL.d
Forshaw I.	46 20	84 05	1889.5	2 51.0 W	-- ----	----	3 43 W	-- --	----	CO.d
Maniwaki	46 23	75 59	1906.7	12 20.0 W	76 29.5	.1441	12 13 W	76 30	.1440	CI.
Mission Point	46 27	84 36	1855.6	2 09 E	-- ----	----	1 28 W	-- --	----	CO.d
Pointe aux Pins	46 28	84 28	1855.5	1 21 E	-- ----	----	2 17 W	-- --	----	CO.d
Soo ⚓	46 29	84 21	1895.3	1 51.3 W	-- ----	----	2 19 W	-- --	----	LS.3E
Sudbury	46 30	81 00	1906.7	6 26.8 W	76 22.0	.1477	6 23 W	76 23	.1477	CI.
Sugar Island	46 30	84 17	1843.4	1 04 E	-- ----	----	2 50 W	-- --	----	JL.83
Sault Ste. Marie	46 30	84 20	1895.3	2 16.5 W	-- ----	----	2 44 W	-- --	----	LS.3E
Do.	46 31	84 22	1844.8	1 01 E	77 19.5	.1398	2 44 W	76 47	.1419	JL.83
Pte. aux Pins	46 30	84 29	1843.4	- ----	77 13.4	.1436	- --	76 41	.1457	JL.83
Gros Cap	46 32	84 43	1841.6	- ----	77 05.3	----	- --	76 33	----	EL.1

* Local disturbance.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

BRITISH NORTH AMERICA—Continued

GROUP II.—*South of parallel 52° N. and between meridians 75° and 90° W.*—Continued.

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c.g.s.*	° ′	° ′	*c.g.s.*	
Parisian I.	46 39	84 42	1906.6	2 37.6 W	76 44	.1478	2 34 W	76 45	.1477	LS.
Near Parisian I.	46.40	84 43	1895.6	2 22.5 W	-- ----	----	2 49 W	-- --	----	LS.3E
Goulais Point	46 41	84 33	1867.6	0 23 E	-- ----	----	2 20 W	-- --	----	CO.d
Temiskaming	46 44	79 06	1906.8	- ----	76 42.8	.1430	- --	76 43	.1430	CI.
Kipewa	46 47	78 59	1906.8	9 44.9 W	76 41.8	.1430	9 40 W	76 42	.1429	CI.
South Sandy I.	46 48	84 39	1867.5	0 15 E	-- ----	----	2 28 W	-- --	----	CO.d
Baskatong	46 49	75 52	1906.8	12 16.2 W	76 38.5	.1417	12 09 W	76 40	.1416	CI.
North Sandy I.	46 50	84 40	1906.6	2 58.6 W	-- ----	.1471	2 56 W	-- --	.1470	LS.
Near North Sandy I.	46 50	84 39	1895.7	2 34.4 W	-- ----	----	3 00 W	-- --	----	LS.3E
Temagami Inn	46 58	80 02	1906.8	11 26.8 W	76 47.4	.1428	11 22 W	76 48	.1427	CI.
Pte. aux Crêpe	46 58	84 44	1843.4	3 03 E	77 11.5	.1427	0 51 W	76 39	.1448	JL.83
Mamainse Pt.	47 02	84 47	1906.6	0 34.7 E	77 18	.1444	0 38 E	77 19	.1443	LS.
Temagami Sta.	47 04	79 47	1906.8	11 54.4 W	76 05.9	.1521	11 49 W	76 07	.1520	CI.
Mishomis *	47 13	75 38	1906.8	18 15.3 W	77 04.2	.1392	18 09 W	77 05	.1391	CI.
Biscotasing	47 18	82 08	1906.7	3 07.2 W	77 09.4	.1384	3 03 W	77 10	.1384	CI.
Montreal I.	47 19	84 45	1906.6	3 20.9 W	-- ----	----	3 17 W	-- --	----	LS.
Caribou I. No. 2	47 20	85 48	1906.7	1 15.3 W	-- ----	----	1 12 W	-- --	----	LS.
Caribou I. No. 1	47 20	85 50	1906.7	1 16.6 W	77 02	.1451	1 13 W	77 03	.1450	LS.
Caribou I. No. 3	47 21	85 50	1906.7	1 11.5 W	-- ----	----	1 08 W	-- --	----	LS.
Sinclair Hbr.	47 22	84 42	1906.6	2 41.4 W	77 26	.1411	2 38 W	77 27	.1410	LS.
Sinclair I.	47 22	84 42	1906.6	3 08.4 W	-- ----	----	3 05 W	-- --	----	LS.
New Liskeard	47 31	79 42	1906.8	8 50.0 W	77 34.7	.1348	8 45 W	77 36	.1347	CI.
Gargantua I.	47 34	84 58	1906.7	2 26.3 W	77 54	.1374	2 23 W	77 55	.1373	LS.
Gargantua (1)	47 34	84 58	1895.4	2 52.0 W	-- ----	----	3 19 W	-- --	----	LS.3E
Gargantua (2)	47 34	84 58	1895.4	1 33.2 W	-- ----	----	2 00 W	-- --	----	LS.3E
Cape Gargantua *	47 37	85 05	1843.4	0 38 E	77 56.1	.1471	3 22 W	77 24	.1492	JL.83
Michipicoten I.	47 42	85 46	1906.7	1 49.2 E	77 36	.1379	1 53 E	77 37	.1378	LS.
Englehart	47 50	79 52	1906.8	9 05.8 W	77 49.6	.1320	9 00 W	77 50	.1320	CI.
Chapleau	47 50	83 27	1906.8	4 04.0 W	77 50.6	.1329	4 00 W	77 51	.1328	CI.
Near Dog R.	47 52	85 24	1843.5	2 22 E	-- ----	----	1 32 W	-- --	----	JL.d
Foot, Long Portage	47 55	84 45	1880.7	3 14.0 W	-- ----	.1299	4 54 W	-- --	.1316	CS.d1
Michipicoten	47 56	84 50	1880.6	1 20.5 W	-- ----	.1319	3 01 W	-- --	.1336	CS.d1
Do.	47 56	84 54	1844.1	0 20 E	78 07.2	.1330	3 40 W	77 34	.1351	JL.83
Le Petit Mort	47 56	85 40	1843.4	4 00 E	-- ----	----	0 06 E	-- --	----	JL.83
Chienne R.	47 58	85 16	1843.4	2 21 E	-- ----	----	1 33 W	-- --	----	JL.83
Pigeon R.	48 00	89 34	1906.8	2 44.8 E	78 07	.1295	2 48 E	78 08	.1294	LS.
Victoria I.*	48 05	89 21	1906.8	0 31.3 E	77 51	.1348	0 34 E	77 52	.1347	LS.
Do.	48 05	89 22	1903.0	3 30.0 E	-- ----	----	3 27 E	-- --	----	CO.†
Otter I.	48 06	86 03	1906.7	4 07.3 W	78 42	.1253	4 04 W	78 43	.1252	LS.
Do.*	48 07	86 07	1843.4	- ----	79 43.6	.1116	- --	78 14	.1131	JL.83
Sturgeon Bay	48 11	89 18	1906.8	2 18.1 E	77 29	.1349	2 21 E	77 30	.1348	LS.
Big Stony Portage	48 14	84 15	1880.7	4 12.1 W	-- ----	.1268	5 48 W	-- --	.1287	CS.d1
Tip Top	48 15	86 08	1871.7	0 03 E	78 56	.1249	2 18 W	76 27	.1269	LS.3E
Twin Lake	48 16	80 17	1906.8	7 47.5 W	77 39.4	.1365	7 42 W	77 40	.1365	CI.
Sandy Beach, Dog L.	48 18	84 00	1880.6	1 19.3 W	-- ----	.1284	2 55 W	-- --	.1301	CS.d1
Thunder Cape	48 18	88 56	1903.0	3 20.0 E	-- ----	----	3 17 E	-- --	----	CO.†
Thunder Cape	48 18	88 56	1906.8	2 34.3 E	-- ----	.1305	2 37 E	-- --	.1304	LS.
Thunder Harbor	48 19	88 53	1906.8	2 14.0 E	78 00	.1305	2 17 E	78 01	.1304	LS.
Fairy Point	48 20	83 44	1880.6	3 22.2 W	-- ----	.1268	5 01 W	-- --	.1285	CS.d1
Missinaibi	48 20	84 07	1906.7	5 39.1 W	77 51.6	.1330	5 35 W	77 52	.1330	CI.
Thunder Cape	48 20	88 52	1843.4	- ----	78 23.2	.1320	- --	77 56	.1326	JL.83
Porphyry Point	48 21	88 38	1906.8	3 16.2 E	78 06	.1315	3 19 E	78 07	.1314	LS.
Oiseaux Bay	48 22	86 10	1906.7	1 41.4 W	78 04	.1319	1 38 W	78 05	.1318	LS.
Big Edward Island	48 22	88 38	1906.8	3 28.4 E	78 21	.1294	3 31 E	78 22	.1293	LS.
Gravel Island	48 22	88 42	1906.8	2 48.6 E	-- ----	.1320	2 51 E	-- --	.1319	LS.
Ft. William School	48 24	89 14	1902.8	3 49.9 E	77 54.6	.1332	3 45 E	77 55	.1335	CS.3
Ft. William Mission	48 24	89 14	1902.8	3 32.9 E	77 54.9	.1331	3 28 E	77 55	.1333	CS.3
Fort William	48 24	89 14	1906.7	3 37.2 E	77 48.0	.1341	3 40 E	77 48	.1340	CI.
Portage Ecarté	48 25	89 44	1843.4	- ----	77 13.5	.1429	- --	76 47	.1435	JL.83
Portage. de Lisle *	48 26	89 42	1843.4	39 18 E	-- ----	----	- --	-- --	----	JL.83
Missinaibi Post	48 28	83 28	1880.6	2 21.2 W	-- ----	.1254	4 06 W	-- --	.1271	CS.d1
Mauvais Portage	48 29	89 44	1843.4	5 41 E	-- ----	----	2 11 E	-- --	----	JL.83
Roche de Bout Ids.	48 31	88 21	1906.7	0 29.4 W	78 55	.1251	0 27 W	78 56	.1250	LS.
White River	48 32	86 14	1844.8	2 15 E	78 33.1	.1293	2 10 W	78 03	.1303	JL.83

* Local disturbance.

† W. J. Stewart, observer; communicated in MS.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

BRITISH NORTH AMERICA—Continued.

GROUP II.—*South of parallel 52° N. and between meridians 75° and 90° W.*—Continued.

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Roche du Bout *	48 34	88 14	1843.4	1 27 E	-- ----	----	2 18 E	-- --	----	JL 83
The Pic	48 35	86 15	1844.1	5 33 E	78 36.6	.1266	1 08 E	78 07	.1275	JL.83
White River	48 36	85 18	1906.7	3 00.6 W	78 15.9	.1291	2 57 W	78 16	.1290	CI.
Lamb Island	48 36	88 08	1906.7	6 12.0 E	79 20	.1164	6 15 E	79 21	.1163	LS.
Sunday Harbor	48 37	86 59	1906.7	1 21.0 W	78 18	.1298	1 18 W	78 19	.1297	LS.
Fort Pic	48 38	86 39	1844.5	5 31 E	-- ----	----	1 06 E	-- --	----	JL.d
Spar Point Island	48 38	88 06	1906.7	2 00.2 E	78 26	.1021	2 03 E	78 27	.1020	LS.
Porcupine Island *	48 38	88 09	1906.7	21 30.1 W	68 48	.1983	21 27 W	68 49	.1982	LS.
Dog Portage	48 39	89 30	1844.1	-- ----	78 26.8	.1304	-- --	78 00	.1310	JL.83
Black Rock *	48 41	86 30	1906.7	19 26.4 W	81 50	.1016	19 23 W	81 51	.1015	LS.
Little Pic Island	48 41	86 33	1906.7	6 13.0 E	-- ----	.1359	6 16 E	-- --	.1358	LS.
Swampy Portage	48 42	83 24	1880.7	0 12.7 W	-- ----	.1269	1 58 W	-- --	.1286	CS.d1
Peninsula Harbor	48 42	86 20	1906.7	4 53.7 W	77 47	.1419	4 50 W	77 48	.1418	LS.
Pic Island	48 42	86 34	1906.7	2 45.8 E	78 08	.1320	2 49 E	78 09	.1319	LS.
Dog Lake	48 44	89 40	1843.4	6 51 E	-- ----	----	3 21 E	-- --	----	JL.83
Height of Land	48 45	85 05	1874.5	1 00 E	-- ----	----	1 07 W	-- --	----	CO.d
Battle Island *	48 45	87 33	1843.4	-- ----	76 24	.1481	- --	75 57	.1490	JL.83
Battle Island	48 45	87 33	1906.7	1 57.6 W	79 04	.1234	1 54 W	79 05	.1233	LS.
Halting Place	48 45	89 53	1857.5	8 54 E	-- ----	----	5 19 E	-- --	----	CO.d
Isle St. Ignace	48 46	87 48	1906.7	4 58.1 E	78 10	.1298	5 01 E	78 11	.1297	LS.
St. Ignace	48 47	87 49	1869.0	5 08.0 E	-- ----	----	2 18 E	-- --	----	LS.3E
Do.	48 47	87 49	1871.0	6 26.0 E	-- ----	----	3 46 E	-- --	----	LS.3E
Schreiber	48 49	87 18	1906.7	0 22.4 W	78 24.8	.1271	0 19 W	78 25	.1269	CI.
Simpson's Island	48 49	87 45	1843.4	5 45 E	78 53.6	.1245	1 50 E	78 27	.1254	JL.83
St. Pauls Portage	48 50	83 24	1880.7	4 10.2 W	-- ----	.1219	5 55 W	-- --	.1236	CS.d1
Halting Place	48 55	89 54	1857.5	9 05 E	-- ----	----	5 35 E	-- --	----	CO.d
Nipigon	49 01	88 16	1906.7	1 17.5 E	78 28.6	.1274	1 20 E	78 29	.1273	CI.
Moose River	49 08	83 22	1880.7	4 20.4 W	-- ----	.1194	6 05 W	-- --	.1211	CS.d1
Twin Portage	49 12	83 24	1880.6	4 58.1 W	-- ----	.1216	6 43 W	-- --	.1233	CS.d1
Albany Rapids	49 22	83 30	1880.7	4 11.0 W	-- ----	.1171	5 56 W	-- --	.1188	CS.d1
Kettle Portage	49 47	83 16	1880.6	4 15.1 W	-- ----	.1141	6 01 W	-- --	.1158	CS.d1
Storehouse Portage	50 04	83 16	1880.7	4 54.6 W	-- ----	.1139	6 40 W	-- --	.1160	CS.d1
Near Cedar Island	50 21	82 42	1880.6	5 14.5 W	-- ----	.1131	7 00 W	-- --	.1152	CS.d1
Falling Brook	50 36	82 07	1880.6	7 56.9 W	-- ----	.1066	9 42 W	-- --	.1085	CO.d1
Long Gravel Bed	50 44	81 48	1880.7	8 01.9 W	-- ----	----	9 47 W	-- --	----	CS.d
Gypsum Beds	50 50	81 15	1880.7	9 52.9 W	-- ----	----	11 38 W	-- --	----	CO.
Ship Sands	51 08	80 44	1846.5	-- ----	81 02	.1011	-- --	-- --	----	CO.1
Moose Factory	51 15	80 40	1846.5	-- ----	81 30	.0962	-- --	-- --	----	CO.1
Do.	51 15	80 40	1880.6	15 27.5 W	-- ----	.0973	-- --	-- --	----	CS.d1
Do.	51 15	80 56	1890.6	15 14.7 W	80 50.2	----	-- --	-- --	----	CO.98
Rupert's House	51 30	78 43	1890.7	14 15.1 W	80 31.5	----	-- --	-- --	----	CO.98

GROUP III.—*South of parallel 52° N. and between meridians 90° and 105° W.*

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Second Portage	48 14	92 25	1843.4	10 21.6 E	77 40.1	.1381	7 26 E	77 18	.1378	JL.83
Lake à la Crosse	48 24	92 04	1843.4	7 52 E	77 51.0	.1365	4 58 E	77 28	.1362	JL.83
Halting Place	48 27	92 30	1857.5	9 53 E	-- ----	----	6 43 E	-- --	----	CO.d
Sturgeon Lake	48 27	92 38	1843.4	-- ----	77 44.8	.1377	- --	77 22	.1374	JL.83
First Portage	48 28	92 41	1843.4	10 25 E	-- ----	----	7 25 E	-- --	----	JL.83
Trembling Portage	48 31	90 00	1857.5	6 21 E	-- ----	----	3 01 E	-- --	----	CO.d
Rainy Lake	48 33	92 50	1843.5	10 54 E	77 47.9	.1374	7 54 E	77 25	.1371	JL.83
French Portage	48 35	91 08	1843.4	-- ----	78 20.4	.1311	- --	77 58	.1308	JL.83
Pickerel Lake	48 35	91 12	1857.5	8 14 E	-- ----	----	4 59 E	-- --	----	CO.d
Portage, Two Rivers	48 35	91 23	1843.4	10 58 E	77 49.4	.1365	7 33 E	77 26	.1362	JL.83
Portage des Morts	48 36	91 25	1843.4	10 39 E	-- ----	----	7 14 E	-- --	----	JL.83
Fort Frances	48 37	93 27	1844.1	9 35 E	77 30	.1400	6 29 E	77 07	.1397	JL.83
Do.	48 37	93 29	1857.5	9 31 E	-- ----	----	6 25 E	-- --	----	CO.d
Rainy River *	48 41	94 31	1843.5	13 04 E	77 57.4	.1376	9 45 E	77 34	.1373	JL.83
Do.	48 43	94 31	1906.8	9 33.8 E	77 27.2	.1376	9 32 E	77 27	.1376	CI.
Farrington	48 46	92 48	1906.8	7 39.2 E	77 42.4	.1349	7 39 E	77 42	.1347	CI.
Halting Lake	48 50	93 58	1857.5	11 20 E	-- ----	----	8 40 E	-- --	----	CO.d

* Local disturbance.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

BRITISH NORTH AMERICA—Continued

GROUP III.—*South of parallel 52° N. and between meridians 90° and 105° W.*—Continued.

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Prairie Portage	48 57	90 01	1844.6	-- ----	78 26.1	.1302	-- --	78 03	.1299	JL.83
Savanne	48 58	90 14	1906.7	4 33.8 E	78 09.9	.1304	4 36 E	78 10	.1302	CI.
Estevan	49 09	102 58	1906.7	17 29.4 E	76 18.3	.1490	17 24 E	76 18	.1490	CI.
Badgar	49 12	95 56	1906.8	11 05.0 E	77 36.4	.1369	11 01 E	77 36	.1369	CI.
Falcon Island	49 19	94 40	1843.5	13 43 E	78 03.7	.1346	10 24 E	77 41	.1343	JL.83
Lauder	49 24	100 43	1906.7	16 09.5 E	76 53.7	.1433	16 04 E	76 53	.1433	CI.
Ignace	49 25	91 40	1906 7	6 14.6 E	78 27.4	.1279	6 15 E	78 27	.1278	CI.
Lake of the Woods	49 25	94 37	1843.5	12 26 E	78 16.7	.1315	9 07 E	77 54	.1312	JL.83
Halting Place	49 26	94 48	1857.5	10 17 E	-- ----	----	7 34 E	-- --	----	CO.d
Intersec. 3d base and 2d initial mer.	49 42	102 00	1881	18 00 E	-- ----	----	17 54 E	-- --	----	CO.98
On 3d base, west bndry. Range IV	49 42	102 32	1881	19 30 E	-- ----	----	19 25 E	-- --	----	CO.98
On 3d base, west bndry. Range VI	49 42	102 49	1881	18 45 E	-- ----	----	18 43 E	-- --	----	CO.98
On 3d base, west bndry. Range VIII	49 42	103 05	1881	18 50 E	-- ----	----	18 50 E	-- --	----	CO.98
On 3d base, west bndy. Range X	49 42	103 05	1881	18 50 E	-- ----	----	18 50 E	-- --	----	CO.98
On 3d base, west bndry. Range XII	49 42	103 21	1881	18 30 E	-- ----	----	18 30 E	-- --	----	CO.98
On 3d base, west bndry. Range XIV	49 42	103 54	1881	19 10 E	-- ----	----	19 11 E	-- --	----	CO.98
On 3d base, west bndry. Range XVI	49 42	104 10	1881	19 40 E	-- ----	----	19 42 E	-- --	----	CO.98
On 3d base, west boundary. Range XVIII	49 42	104 26	1881	19 45 E	-- ----	----	19 48 E	-- --	----	CO.98
On 3d base, west bndry. Range XX	49 42	104 42	1881	19 30 E	-- ----	----	19 35 E	-- --	----	CO.98
On 3d base, west boundary. Range XXII	49 42	104 59	1881	19 25 E	-- ----	----	19 33 E	-- --	----	CO.98
Upper Fort Gray	49 43	97 02	1843.5	16 00 E	-- ----	----	13 23 E	-- --	----	JL.d
Kenora	49 46	94 26	1906.7	9 54.1 E	77 58.9	.1318	9 52 E	77 59	.1316	CI.
Near Rat Portage	49 46	94 29	1885.7	11 58 E	78 35.3	.1272	11 18 E	78 26	.1282	CO.98
Rat Portage	49 46	94 33	1844.1	9 38 E	78 07.5	.1331	6 19 E	77 44	.1328	JL.83
Eagle River	49 48	93 11	1906.7	6 39.7 E	78 07.8	.1313	6 39 E	78 08	.1312	CI.
Brandon	49 50	99 57	1884.6	14 59 E	77 36.0	.1386	14 47 E	77 28	.1389	CO.98
Do.	49 52	99 58	1906.7	15 00.2 E	77 28.7	.1381	14 55 E	77 29	.1381	CI.
Winnipeg	49 52	97 09	1906.7	13 56.1 E	78 10.3	.1304	13 52 E	78 10	.1304	CI.
Winnipeg, C. P. R.	49 53	97 16	1882.4	-- ----	79 50.2	----	-- --	79 46	----	CO.1
Sand L., Winnipeg R.	50 02	94 42	1885.5	10 55 E	78 31.4	.1301	10 15 E	78 22	.1309	CO.98
Kirkella	50 02	101 22	1906.7	16 02.4 E	77 17.0	.1400	15 57 E	77 17	.1400	CI.
Mouth, White Dog R.	50 08	94 54	1885.5	9 50 E	78 28.2	.1304	9 05 E	78 19	.1312	CO.98
Selkirk	50 09	96 52	1886.4	-- ----	78 21.7	.1214	- --	78 14	.1220	CO.98
Winnipeg R.	50 10	95 09	1844.0	11 55 E	-- ----	----	9 07 E	-- --	----	JL.d
Do.*	50 10	95 12	1843.5	12 29 E	79 10.6	.1230	9 41 E	78 53	.1227	JL.83
West Selkirk	50 10	96 52	1907.8	13 16.8 E	78 45.6	.1256	13 11 E	78 46	.1254	CI.
Grassy Narrows, English R.	50 11	94 02	1885.5	9 38 E	79 05.9	.1220	9 05 E	78 58	.1226	CO.98
English River	50 14	94 59	1885.5	9 04 E	79 07.9	.1219	8 31 E	79 00	.1225	CO.98
Slave Falls	50 15	95 40	1843.5	-- ----	78 57.1	.1245	-- --	78 39	.1242	JL.83
English River	50 16	94 31	1885.5	9 31 E	79 16.3	.1193	9 01 E	79 08	.1199	CO.98
Pinawa Portage*	50 16	96 03	1843.5	12 49 E	-- ----	----	10 35 E	-- --	----	JL.83
Red River	50 18	96 52	1843.5	-- ----	78 34	.1288	- --	78 19	.1285	JL.83
Lac Seul, H. B. Co.'s Post	50 20	92 14	1885.6	7 14 E	79 34.8	.1182	6 30 E	79 27	.1192	CO.98
Tide L., English R.	50 21	93 57	1885.6	9 32 E	79 21.4	.1196	8 52 E	79 13	.1204	CO.98
English River	50 22	94 39	1885.5	10 32 E	79 22.3	.1189	9 59 E	79 14	.1196	CO.98
Lac Seul	50 24	92 05	1885.6	8 23 E	79 04.4	.1241	7 39 E	78 56	.1250	CO.98
Broadview	50 24	102 35	1906.7	17 05.7 E	77 37.5	.1359	17 00 E	77 37	.1359	CI.
Regina	50 26	104 36	1906.7	19 12.0 E	76 57.2	.1427	19 07 E	76 57	.1427	CI.
Do.	50 27	104 36	1884.6	18 48 E	77 05.0	.1431	18 56 E	76 57	.1432	CO.98

* Local disturbance.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

BRITISH NORTH AMERICA—Continued

GROUP III.—*South of parallel 52° N and between meridians 90° and 105° W.*—Continued.

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c.g.s.*	° ′	° ′	*c.g.s.*	
Lake Winnipeg	50 28	96 35	1857.5	14 25 E	-- ----	----	11 48 E	-- --	----	CO.d
Shanty Narrows, Lac Seul	50 29	92 52	1885.6	7 11 E	79 15.6	.1218	6 27 E	79 08	.1228	CO 98
Lake Winnipeg	50 33	96 36	1843.5	-- ----	79 05.1	----	- --	78 51	----	JL.83
Do.	50 35	96 36	1843.5	13 41 E	78 34.4	.1290	11 27 E	78 20	.1284	JL 83
Fort Alexander	50 37	96 22	1844.1	14 00.5 E	78 58.4	.1243	20 50 E	78 44	.1237	JL.83
Camping Lake, English R.	50 38	93 24	1885.6	8 12 E	79 17.2	.1203	7 32 E	79 09	.1213	CO.98
English River	50 39	93 10	1885.6	9 31 E	79 11.9	.1214	8 51 E	79 04	.1224	CO.98
B. of Winnipeg R.	50 42	96 31	1886.5	12 34 E	78 58.8	.1143	12 07 E	78 52	.1149	CO.98
Station A	50 42	102 00	1880.4	18 50.7 E	77 51.5	----	18 12 E	77 46	----	CO.d1
Station B	50 45	101 31	1880.4	17 10.8 E	-- ----	----	16 37 E	-- --	----	CO.d
Station K	50 46	103 48	1880.5	19 35.1 E	77 23.2	----	19 11 E	77 18	----	CO.d1
Station L	50 49	104 16	1880.5	19 10.7 E	-- ----	----	18 46 E	-- --	----	CO.d
Lake Winnipeg*	51 04	96 26	1844.1	-- ----	79 31.5	.1217	-- --	79 15	.1211	JL.83
Do.	51 04	96 56	1843.5	13 45.5 E	79 11.8	.1218	11 32 E	78 56	.1212	JL.83
Cat River	51 06	91 24	1885.7	5 40 E	80 05.1	.1118	5 07 E	79 56	.1130	CO.98
Lake St. Joseph	51 11	90 37	1885.7	5 26 E	80 22.2	.1080	4 31 E	80 12	.1091	CO.98
Station J	51 12	103 54	1880.5	19 50.0 E	77 51.6	----	20 05 E	77 44	----	CO.d1
Mouth Albany R., Lake St. Joseph	51 13	90 10	1885.7	5 56 E	80 19.8	.1089	5 01 E	80 10	.1100	CO.98
Station I	51 22	104 00	1880.5	18 33.6 E	77 53.2	----	18 49 E	77 45	----	CO.d1
Cat River	51 30	91 50	1885.7	5 02 E	80 09.3	.1118	4 12 E	80 00	.1129	CO.98
Station H	51 32	103 43	1880.5	19 52.0 E	78 12.0	----	20 07 E	78 04	----	CO.d1
Lake Winnipeg*	51 34	96 43	1844.1	15 07 E	79 06.1	.1255	13 27 E	78 50	.1249	JL.83
Do.	51 36	96 42	1844.0	15 42 E	-- ----	----	14 02 E	-- --	----	JL.d
About 6 miles N. of Loon Lake	51 37	96 37	1886.5	14 36 E	78 49.2	.1162	14 16 E	78 41	.1167	CO.98
Lake Winnipeg*	51 37	96 53	1843.5	16 25 E	79 38.0	.1200	14 45 E	79 22	.1194	JL.83
Station G	51 39	103 08	1880.5	19 33.3 E	78 21.2	----	19 48 E	78 13	----	CO.d1
Lake Winnipeg*	51 40	96 56	1843.5	21 38 E	-- ----	----	19 58 E	-- --	----	JL.83
Station F	51 42	103 04	1880.5	19 38.2 E	-- ----	----	19 48 E	-- --	----	CO.d
H.B.Co.'s post, Cat R.	51 44	91 46	1885.8	4 38 E	80 29.0	.1072	3 48 E	80 20	.1083	CO.98
Lake Winnipeg*	51 44	97 02	1844.1	15 24 E	79 39	.1274	13 44 E	79 23	.1268	JL.83
Station E	51 44	102 29	1880.5	18 56.0 E	-- ----	----	19 11 E	-- --	----	CO.d
Lake Winnipeg	51 45	96 53	1843.5	15 57 E	-- ----	----	4 17 E	-- --	----	JL.d
Station D	51 45	102 01	1880.5	20 12.6 E	78 34.7	----	20 26 E	78 27	----	CO.d1
Cat Lake	51 46	91 51	1885.8	-- ----	80 23.2	.1091	-- --	80 14	.1102	CO.98
Lake Winnipeg I.	51 46	97 00	1843.5	-- ----	79 28.3	----	-- --	79 12	----	JL.83
Station C	51 54	101 57	1880.4	19 37.3 E	78 34.5	----	19 50 E	78 26	----	CO.d1

GROUP IV.—*South of parallel 52° N and between meridians 105° and 120° W.*

	° ′	° ′		° ′	° ′	*c.g.s.*	° ′	° ′	*c.g.s.*	
Wigwam R. Sta.*	49 00	114 45	1861.6	-- ----	73 30.8	.1764	-- --	73 39	.1751	CO.1†
Inshwointum Sta.	49 00	118 28	1860.9	-- ----	72 48.8	.1808	-- --	72 46	.1785	CO.1†
Osoyoos Sta.	49 00	119 24	1860.5	22 14 E	-- ----	----	24 00 E	-- --	----	CO.d†
Akamina Sta.	49 01	114 04	1861.5	23 12 E	73 42.7	.1757	23 12 E	73 51	.1744	CO.d1†
N. W. Terr. Sta.	49 06	113 50	1879.2	23 22 E	-- ----	----	23 37 E	-- --	----	CO.d
Camp No. 11	49 07	115 16	1860.0	-- ----	73 37.6	----	-- --	73 49	----	CS.1‡
N. W. Terr Sta.	49 22	113 40	1879.2	22 58 E	-- ----	----	23 18 E	-- --	----	CO.d
Do.	49 25	113 40	1879.2	22 58 E	-- ----	----	23 17 E	-- --	----	CO.d
Do.	49 30	113 22	1879.2	22 36 E	-- ----	----	22 55 E	-- --	----	CO.d
Camp No. 14	49 31	115 35	1860.0	23 34 E	73 49.2	.1732	23 44 E	74 00	.1717	CS.d‡
Sta. S, the Gap	49 38	109 51	1880.6	21 43.7 E	75 20.4	----	21 47 E	75 12	----	CO.d1
Station U	49 39	112 18	1880.6	22 22.7 E	-- ----	----	22 37 E	-- --	----	CO.d
Station T	49 40	111 38	1880.6	21 51.8 E	-- ----	----	22 02 E	-- --	----	CO.d
On 3d base, west bndry., R. XXIV	49 42	105 15	1881	19 20 E	-- ----	----	19 27 E	-- --	----	CO.98
N. W. Terr. Sta.	49 43	112 50	1879.1	22 28 E	-- ----	----	22 45 E	-- --	----	CO.d
Willow Creek	49 45	113 24	1880.6	22 38.1 E	74 46.3	----	22 54 E	74 43	----	CO.d1

* Local disturbance.

† Boundary survey, R. W. Haig, observer; Phil. Trans. R. S., 1864; revised results, 1900.

‡ U. S. Northwest Boundary Commission, J. S. Harris, observer; revised results, 1900.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

BRITISH NORTH AMERICA—Continued

GROUP IV.—*South of parallel 52° N. and between meridians 105° and 120° W.*—Continued.

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905 0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s*	° ′	° ′	*c. g. s.*	
N. W. Terr. Sta.	49 53	112 30	1879.1	22 46 E	-- ----	----	23 00 E	-- --	----	CO.d
Do.	49 55	111 40	1879.1	22 24 E	-- ----	----	22 36 E	-- --	----	CO.d
Station R	50 03	108 51	1880.6	22 00.0 E	75 50.1	----	22 10 E	75 42	----	CO.d1
Fourth base on 5th Mer.	50 03	114 00	1887.6	24 01 E	74 37.5	----	24 15 E	74 30	----	CO.98
N. W. Terr. Sta.	50 12	110 30	1878.7	21 55 E	-- ----	----	21 53 E	-- --	----	CO.d
Station W	50 22	113 49	1880.6	22 03.0 E	74 44.1	----	22 33 E	74 41	----	CO.d1
Station Q, Reed L.	50 27	107 22	1880.6	21 35.0 E	-- ----	----	21 40 E	-- --	----	CO.d
Station P	50 29	106 47	1880.6	21 18.7 E	76 51.2	----	21 34 E	76 44	----	CO.d1
N. W. Terr. Sta.	50 30	110 20	1878.7	23 14 E	-- ----	----	-- --	-- --	----	CO.d
Station M	50 44	105 14	1880.5	20 21.3 E	-- ----	----	20 44 E	-- --	----	CO.d
SE. cor. T. 21, R. 25 W. of 2d I. M.	50 45	105 20	1881.6	20 20 E	-- ----	----	20 42 E	-- --	----	CO.98
SE. cor T. 21, R. 29 W. of 2d I. M.	50 45	105 53	1881.7	20 41 E	-- ----	----	21 04 E	-- --	----	CO.98
About 120 yd. W. of Sta. 1569 of Traverse	50 45	119 14	1885.8	24 41 E	73 58.6	.1696	25 27 E	73 51	.1698	CO.98
Station N	50 47	105 51	1880.5	20 36.3 E	-- ----	----	20 59 E	-- --	----	CO.d
N. W. Terr. Sta.	50 48	113 18	1879.9	23 00 E	-- ----	----	23 35 E	-- --	----	CO.d
Little Shuswap L.	50 49	119 41	1885.7	27 11 E	73 51.6	.1711	27 57 E	73 44	.1713	CO.98
Sicamous Narrows	50 50	119 00	1885.8	24 49 E	74 07.0	.1678	25 36 E	73 59	.1680	CO.98
On Little Shuswap	50 50	119 46	1871.5	24 30 E	-- ----	----	-- --	-- --	----	CO.d
L. Shuswap, Blind B.	50 51	119 20	1885.7	-- ----	73 58.5	.1702	-- --	73 51	.1704	CO.98
N. W. Terr. Sta.	50 52	114 00	1879.8	24 19 E	-- ----	----	24 54 E	-- --	----	CO.d
Magnetic Station	50 55	107 29	1860.0	24 31.0 E	-- ----	----	-- --	-- --	----	CO.d
N. W. Terr. Sta.	50 55	110 00	1878.7	23 50 (?)E	-- ----	----	-- --	-- --	----	CO.d
Do.	50 56	114 10	1879.9	24 30 E	-- ----	----	25 05 E	-- --	----	CO.d
Land Survey Sta.	50 58	110 40	1882.6	22 37.1 E	-- ----	----	23 02 E	-- --	----	CO.d
Near Revelstoke	51 00	118 12	1886.6	25 22 E	74 26.2	.1649	26 07 E	74 18	----	CO.98
Land Survey Sta.	51 01	111 40	1882.6	-- ----	76 13.2	----	-- --	76 06	----	CO.1
Station X	51 02	114 00	1880.7	24 13.4 E	75 23.4	----	24 48 E	75 17	----	CO.d1
Land Survey Sta.	51 03	112 14	1882.6	23 19.1 E	-- ----	----	23 54 E	-- --	----	CO.d
Calgary	51 03	114 05	1887.5	24 55 E	-- ----	----	25 25 E	-- --	----	CO.98
Station O	51 05	106 37	1880.5	21 18.6 E	77 03.9	----	21 24 E	76 56	----	CO.d1
Land Survey Sta.	51 05	110 15	1882.5	-- ----	76 14.1	----	-- --	76 07	----	CO.1
N. W. Terr. Sta.	51 05	115 00	1879.6	23 58 E	-- ----	----	24 33 E	-- --	----	CO.d
Sulphur Mtn.	51 09	115 34	1907.5	25 53.5 E	74 54 0	.1590	25 45 E	74 55	.1590	CI.
Banff	51 09	115 34	1907.5	25 59.3 E	74 56.3	.1593	25 51 E	74 57	.1593	CI.
Station Y	51 10	114 48	1880.7	-- ----	75 17.0	----	-- --	75 10	----	CO.1
Tunnel Mtn.	51 11	115 34	1907.5	25 57.4 E	74 57.6	.1593	25 49 E	74 58	.1593	CI.
Near Leancloil	51 14	116 38	1886.4	23 36 E	74 49.3	.1616	24 16 E	74 41	.1618	CO.98
Glacier	51 16	117 28	1907.8	25 57.1 E	74 29.9	.1625	25 48 E	74 30	.1624	CI.
Between Palliser and Golden, C. P. R.	51 18	116 52	1886.4	25 42 E	74 54.1	.1607	26 22 E	74 46	.1609	CO.98
Near Rogers Pass along C. P. R.	51 18	117 31	1886.5	25 34 E	74 41.4	.1628	26 14 E	74 33	.1630	CO.98
1 mile N. of Golden	51 19	116 59	1886.4	25 39 E	74 50.2	.1614	26 19 E	74 42	.1615	CO.98
Stephen, RockyMtns.	51 27	116 18	1886.4	24 00 E	75 04.3	.1591	24 40 E	74 56	.1592	CO.98
Near Beaver, Keafe & Clarke's siding	51 31	117 20	1886.5	26 31 E	74 52.3	.1609	27 11 E	74 44	.1610	CO.98
SE. cor. T. 29, R. 25 W. of 2d I. M.	51 27	105 23	1881.7	20 24 E	-- ----	----	20 55 E	-- --	----	
Intersection 8th base with 3d I. M.	51 27	106 00	1881.8	21 04 E	-- ----	----	21 35 E	-- --	----	
Station Z	51 52	114 00	1880.7	24 15.8 E	-- ----	----	25 11 E	-- --	----	CO.d

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

BRITISH NORTH AMERICA—Continued

GROUP V.—*South of parallel 52° N. and west of meridian 120° W.*

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Beechy Head	48 20	123 39	1892.8	24 37.0 E	-- ----	----	25 07 E	-- --	----	CS.d
Whiffen Spit	48 22	123 44	1864.5	20 20 E	-- ----	----	21 45 E	-- --	----	CO.d
Sheringham *	48 23	123 55	1893.5	22 43.0 E	-- ----	----	23 11 E	-- --	----	CS.d
Victoria	48 25	123 24	1903.5	24 04.6 E	-- ----	.1880	24 10 E	-- --	.1882	CS.3
Do.	48 25	123 24	1907.7	24 15.2 E	71 18.1	.1881	24 06 E	71 21	.1877	CI.
Esquimalt	48 25	123 26	1881.8	22 55.6 E	71 30.3	.1881	23 48 E	71 25	.1876	CS.d1
Discovery *	48 26	123 14	1892.7	23 11.0 E	-- ----	----	23 41 E	-- --	----	CS.d
Esquimalt	48 26	123 27	1892.7	-- ----	71 27.4	.1905	-- --	71 21	.1914	FN.1
Do.	48 26	123 28	1898.3	23 42.9 E	71 32.4	.1868	24 03 E	71 25	.1876	BN.01
Arch Rock *	48 28	124 12	1893.6	25 37.8 E	-- ----	----	26 06 E	-- --	----	CS.d
Gordon Head *	48 30	123 18	1894.4	23 36 E	-- ----	----	24 03 E	-- --	----	CS.d
Darcy Island **	48 34	123 16	1894.4	22 57 E	-- ----	----	23 24 E	-- --	----	CS.d
Vancouver **	48 34	124 38	1893.6	23 51.3 E	-- ----	----	24 19 E	-- --	----	CS.d
Hallibut **	48 37	123 16	1894.4	22 40 E	-- ----	----	23 07 E	-- --	----	CS.
Tom **	48 40	123 16	1894.4	23 35 E	-- ----	----	24 02 E	-- --	----	CS.
Fairfax **	48 42	123 18	1894.4	23 13 E	-- ----	----	23 40 E	-- --	----	CS.
Douglas **	48 44	123 11	1894.5	23 50 E	-- ----	----	24 17 E	-- --	----	CS.
Ashtnolou Sta.	49 00	120 00	1860.6	22 44 E	72 27.0	.1850	24 18 E	72 19	.1818	CO.d1
Oyster Harbor	49 00	123 48	1904.9	24 34.0 E	-- ----	----	24 34 E	-- --	----	BN.05
Onchucklin Harbor	49 00	125 00	1861.5	24 13 E	-- ----	----	25 45 E	-- --	----	CO.d†
Camp Chilukweyuck	49 01	121 23	1860.0	22 09 E	72 24.6	.1856	23 45 E	72 05	.1836	CS.d1‡
Magnetic Sta.	49 01	121 45	1860.0	22 55 E	-- ----	----	24 31 E	-- --	----	CS.d‡
Sumass Prairie	49 01	122 12	1858.5	21 30 E	72 22.0	.1868	23·10 E	72 02	.1848	CO.d1‡‡
Semiahmoo	49 01	122 46	1860.0	22 55 E	72 01.2	.1888	24 31 E	71 41	.1868	CS.d1‡
Chilukweyuck Lake	49 02	121 23	1859.7	-- ----	72 31.0	.1826	-- --	72 11	.1806	CO.1‡‡
Schweltzer Lake	49 02	122 00	1859.5	21 37 E	72 03.9	.1886	23 14 E	71 44	.1866	CO.d1‡‡
Magnetic Station	49 03	120 55	1860.0	24 19 E	-- ----	----	25 55 E	-- --	----	CS.d‡
Do.	49 05	121 07	1860.0	22 23 E	-- ----	----	23 59 E	-- --	----	CS.d‡
Garry Pt., Fraser R.	49 07	123 11	1864.5	22 58 E	-- ----	----	24 23 E	-- --	----	CO.d
On Ashtnolou R.	49 08	120 00	1860.5	22 00 E	-- ----	----	23 34 E	-- --	----	CO.d‡‡
Do.	49 10	120 00	1860.6	-- ----	72 36.9	.1822	-- --	72 26	.1790	CO.1‡‡
Jacko Point	49 10	123 54	1904.4	24 59.5 E	-- ----	----	25 02 E	-- --	----	BN.05
Nanaimo	49 10	124 00	1862.5	22 57 E	71 54	----	24 26 E	71 36	----	CO.d1†
Port Hammond	49 12	122 39	1885.4	22 48 E	71 58.8	.1871	23 35 E	71 51	.1872	CO.98
Harrison River	49 13	121 56	1885.4	22 25 E	72 28.2	.1808	23 12 E	72 20	.1809	CO.98
New Westminster	49 13	122 53	1862.5	22 40 E	72 15	----	24 08 E	71 57	----	CO.d1†
Departure Bay	49 13	123 58	1880.3	-- ----	71 29.2	----	-- --	71 24	----	CS.o
Do.	49 13	123 57	1881.8	23 55.6 E	71 42.2	.1875	24 48 E	71 36	.1870	CS.d1
Barclay Sound	49 14	124 50	1861.5	24 37 E	-- ----	----	26 09 E	-- --	----	CO.d†
Manoose Harbor	49 15	124 08	1904.5	24 48.5 E	-- ----	----	24 50 E	-- --	----	BN.05
Hecate Bay	49 15	125 56	1861.5	22 39 E	72 37	----	24 11 E	72 18	----	CO.d†
Burrard Inlet	49 16	123 10	1859.5	-- ----	72 14	----	-- --	71 54	----	CO.1†
Jericho	49 16	123 12	1891.6	23 42 E	-- ----	----	24 15 E	-- --	----	CO.d
Port Moody	49 17	122 51	1891.5	23 00 E	-- ----	----	23 34 E	-- --	----	CO.d
Do.	49 17	122 52	1885.4	22 50 E	72 11.8	.1868	23 37 E	72 04	.1869	CO.98
Seymour Creek	49 18	123 01	1891.6	24 04 E	-- ----	----	24 37 E	-- --	----	CO.d
Vancouver	49 18	123 07	1898.4	24 30.0 E	71 51.5	.1870	24 50 E	71 46	.1879	BN.01
Do.	49 18	123 07	1904.5	25 11.5 E	-- ----	----	25 13 E	-- --	----	BN.05
Baynes Sd. (Maple Spit)	49 28	124 45	1898.4	24 25.7 E	71 53.6	.1844	24 44 E	71 49	.1853	BN.01
Town of Yale	49 34	121 25	1871.5	24 00 E	-- ----	----	25 08 E	-- --	----	CO.d
Baynes Sd. (Beak Pt.)	49 36	124 51	1898.6	24 14.1 E	71 56.5	.1854	24 32 E	71 52	.1863	BN.01
Henry Bay	49 36	124 51	1860.5	-- ----	72 25	----	-- --	72 05	----	CO.1†
Union	49 36	124 54	1900.8	25 55.6 E	71 30.2	----	26 09 E	71 26	----	CS.d2
Do.	49 36	124 54	1903.5	26 00.0 E	-- ----	.1902	26 05 E	-- --	.1904	CS.3
Do.	49 36	124 54	1904.3	26 05.6 E	71 26.4	.1898	26 08 E	71 26	.1898	CS.4
Union (1)	49 36	124 54	1906.5	26 00.9 E	71 24.2	.1901	25 56 E	71 25	.1900	CS.6
Union (2)	49 36	124 54	1906.5	26 17.4 E	71 25.3	.1910	26 13 E	71 26	.1908	CS.6

* Local disturbance.

** At these stations *D* was observed with a compass declinometer, which was later stolen before index correction could be determined.

† G. H. Richards, observer, Phil. Trans. R. S. 1872; Sabine Contr. XIII.

‡ U. S. Northwest Boundary Commission, J. S. Harris, observer; revised results, 1900.

‡‡ Boundary Survey, R. W. Haig, observer; Phil. Trans. R. S. 1864, revised results 1900.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

BRITISH NORTH AMERICA—Continued

GROUP V.—*South of parallel 52° N. and west of meridian 120° W.*—Continued.

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Friendly Cove	49 36	126 38	1881.7	23 36.2 E	71 33.0	.1883	24 33 E	71 27	.1879	CS.d1
Comox *	49 40	124 55	1904.5	26 40.5 E	-- ----	----	26 42 E	-- --	----	BN.05
Comox (Goose Spit)	49 40	124 56	1898.3	26 14.7 E	71 37.4	.1882	26 32 E	71 32	.1890	BN.01
Do.	49 40	124 56	1906.6	-- ----	71 29.6	----	-- --	71 31	----	BN.07
Head of Howe Sd.	49 42	123 09	1873.5	23 54 E	-- ----	----	24 59 E	-- --	----	CO.d
Active Pass	49 52	123 19	1904.7	24 03.5 E	-- ----	----	24 05 E	-- --	----	BN.05
Salmon River	49 58	121 31	1885.5	25 02 E	72 40.0	.1805	25 52 E	72 32	.1806	CO.98
Cisco Station	50 07	121 34	1885.6	-- ----	72 42.9	.1802	-- --	72 35	.1803	CO.98
Squirrel Cove	50 08	124 57	1864.5	23 56 E	-- ----	----	25 24 E	-- --	----	CO.d
Mouth Thompson R.	50 13	121 36	1871.5	25 00 E	-- ----	----	26 15 E	-- --	----	CO.d
Spences Bridge	50 24	121 21	1885.6	23 48 E	73 27.0	.1726	24 38 E	73 19	.1727	CO.98
Thompson R.	50 27	121 22	1871.5	25 30 E	-- ----	----	26 45 E	-- --	----	CO.d
North Harbor	50 29	128 04	1881.7	24 53.7 E	71 41.3	.1867	25 46 E	71 36	.1862	CS.d1
Porte Neville	50 31	126 04	1860.5	-- ----	72 19	----	-- --	72 00	----	CO.1†
About 350 yds. S. of Sta. 1289 of Traverse	50 39	120 07	1885.7	25 05 E	73 41.2	.1713	25 55 E	73 33	.1714	CO.98
Kamloops	50 39	120 20	1885.7	24 03 E	73 36.6	.1712	24 53 E	73 29	.1713	CO.98
Near Black Canyon	50 40	121 18	1885.6	27 28 E	73 38.9	.1722	28 18 E	73 31	.1723	CO.98
Thompson R.	50 41	120 12	1871.5	24 00 E	-- ----	----	25 15 E	-- --	----	CO.d
Near Kamloops	50 42	120 30	1877.5	24 15 E	-- ----	----	25 20 E	-- --	----	CO.d
Beaver Harbor	50 43	127 25	1860.5	-- ----	72 37	----	-- --	72 18	----	CO.1†
Do.	50 43	127 25	1866.5	24 30 E	-- ----	----	25 53 E	-- --	----	CO.d
Van Horn	50 44	120 50	1885.6	-- ----	73 28.0	.1718	-- --	73 20	.1719	CO.98
Ashcroft	50 44	121 17	1907.7	27 36.1 E	73 22.2	.1725	27 28 E	73 25	.1722	CI.
Thompson R.	50 46	121 05	1871.5	23 30 E	-- ----	----	24 45 E	-- --	----	CO.d
St. Cloud	50 46	121 08	1885.6	23 56 E	74 01.7	.1695	24 51 E	73 54	.1696	CO.98
Mouth Hat Creek	50 47	121 33	1873.5	27 00 E	-- ----	----	28 10 E	-- --	----	CO.d
Tracey Harbor	50 51	126 53	1863.5	26 40 E	-- ----	----	28 05 E	-- --	----	CO.d
Anchorage Cove	50 53	126 12	1881.6	25 42.7 E	72 46.1	.1756	26 33 E	72 40	.1751	CS.d1
Waddington Hbr.	50 54	124 50	1881.6	25 22.0 E	71 58.6	.1847	26 12 E	71 53	.1842	CS.d1
Blunder Hbr.	50 54	127 19	1903.8	26 32.8 E	-- ----	----	26 37 E	-- --	----	BN.05
North Thompson R.	50 57	120 28	1871.5	23 52.5 E	-- ----	----	25 08 E	-- --	----	CO.d
Queen Charlotte Sd.	50 59	127 31	1903.8	26 14.4 E	-- ----	----	26 18 E	-- --	----	BN.05
Treadmill Hbr.	51 06	127 34	1864.5	24 08 E	-- ----	----	25 36 E	-- --	----	CO.d
North Thompson R.	51 12	120 22	1871.5	24 07.5 E	-- ----	----	25 12 E	-- --	----	CO.d
Do.	51 28	120 25	1873.5	25 20 E	-- ----	----	26 30 E	-- --	----	CO.d
Safety Cove	51 32	127 57	1864.5	23 38 E	-- ----	----	25 06 E	-- --	----	CO.d
North Thompson R.	51 33	120 17	1871.5	25 30 E	-- ----	----	26 45 E	-- --	----	CO.d

MEXICO

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Port Escondido	16 04	96 57	1880.9	7 41.7 E	39 13.2	.3460	7 30 E	40 14	.3343	CS.d1
Tonala	16 09	94 03	1907.7	7 18.5 E	41 08.6	.3309	7 19 E	40 59	.3324	MO.
Tehuantepec	16 10	95 27	1880.9	7 17.2 E	40 08.5	.3449	7 05 E	41 10	.3332	CS.do
Salina Cruz	16 10	95 12	1889.2	6 59 E	40 02	.3426	7 07 E	40 50	.3336	UN.d1
Do.	16 10	95 10	1907.5	7 10.8 E	41 27.4	.3306	7 09 E	41 17	.3320	MO.
Acapulco	16 49	99 56	1880.9	7 56.6 E	40 08.5	.3466	7 50 E	41 10	.3351	CS.do
Do.	16 51	99 56	1898.0	7 32.9 E	40 49.6	.3379	7 45 E	41 15	.3343	BN.01
Do.	16 51	99 55	1907.5	8 08.8 E	41 24.7	.3351	8 04 E	41 17	.3363	CS.8
Do.	16 51	99 56	1906.4	8 28 E	41 09.0	.3341	8 26 E	41 05	.3349	BN.07
Rincon Antonio	16 56	103 08	1907.3	7 22.4 E	42 14.0	.3364	7 21 E	42 07	.3374	MO.
Oaxaca	17 04	96 44	1907.1	7 20.5 E	42 19.8	.3307	7 17 E	42 12	.3318	CI.
Sta. Lucrecia	17 26	95 02	1907.3	7 11.3 E	42 53.9	.3372	7 10 E	42 45	.3384	MO.
Isla Grande	17 40	101 41	1880.9	7 26.4 E	-- ----	----	7 14 E	-- --	----	CS.d
San Juan Bautista	17 59	92 56	1907.7	6 38.1 E	44 09.7	.3266	6 38 E	44 00	.3381	MO.
Coatzacoalcos	18 08	94 26	1880.1	7 10.5 E	43 03.3	.3411	6 48 E	44 06	.3294	CS.do
Do.	18 09	94 25	1889.1	6 53 E	43 03	.3361	6 54 E	43 51	.3283	UN.d1
Do.	18 09	94 26	1907.3	7 01.2 E	44 26.5	.3306	6 58 E	44 18	.3319	MO.
El Hule	18 09	102 20	1907.4	7 20.5 E	44 19.8	.3306	7 18 E	44 03	.3318	MO.
Clarion I.	18 20	114 42	1880.8	8 23 E	39 34.0	.3392	8 48 E	40 16	.3318	CS.d1

* Local disturbance; black magnetic sand.

† G. H. Richards, observer, Phil. Trans. R. S. 1872, Sabine Contr. XIII.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

MEXICO—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c.g.s.*	° ′	° ′	*c.g.s.*	
Cayo Lobos	18 22	87 22	1907.5	- ----	45 58.8	.3234	- --	45 52	.3249	MO.
Tehuacan	18 28	97 28	1907.5	7 40.1 E	44 12.8	.3294	7 36 E	44 03	.3307	MO.
Balsas	18 34	101 44	1907.4	9 00.5 E	43 02.8	.3324	8 57 E	42 54	.3336	MO.
Matamoros, Izucar	18 36	98 28	1907.6	7 58.8 E	44 08.4	.3303	7 54 E	43 58	.3316	MO.
Laguna de Terminos	18 38	93 00	1880.2	6 39.9 E	44 18.3	.3390	6 10 E	45 20	.3270	CS.d1
Laguna del Carmen	18 39	91 54	1907.7	6 18.6 E	45 11.0	.3209	6 18 E	45 02	.3225	MO.
Socorro I.	18 43	110 54	1880.8	8 49.6 E	41 18.7	.3464	9 18 E	42 04	.3390	CS.d1
Cocolopam	18 53	97 04	1856.6	8 28 E	42 51	.3494	7 42 E	44 14	.3307	SM.d1
Cordoba	18 54	96 57	1907.3	- ----	45 01.3	.3290	- --	44 52	.3302	MO.
Cuernavaca	18 55	99 15	1907.4	8 06.8 E	44 33.2	.3302	8 02 E	44 24	.3314	MO.
Potrero	18 56	96 48	1856.6	8 39 E	42 51	.3492	7 53 E	44 14	.3305	SM.d1
San Andres	18 59	97 15	1856.7	8 13 E	42 38	.3499	7 27 E	44 01	.3312	SM.d1
Puebla	19 03	98 14	1907.4	8 04.5 E	44 45.7	.3291	8 02 E	44 37	.3303	MO.
Tlamacas	19 03	98 39	1857.1	8 28 E	42 34	.3491	7 41 E	43 56	.3305	SM.d1
Manzanillo	19 03	104 18	1907.1	8 31.4 E	43 58.3	.3300	8 29 E	43 52	.3309	MO.
Do.	19 03	104 20	1880.9	8 05.0 E	43 15.8	.3375	8 20 E	44 08	.3289	CS.d1
Near Roca Partida	19 06	112 00	1874.2	**8 20.9 E	-- ----	----	8 57 E	-- --	----	UN.d
Vera Cruz	19 12	96 07	1888.9	7 12.7 E	44 20.4	.3275	7 21 E	45 07	----	UN. do
Do.	19 12	96 08	1880.1	7 26.3 E	44 04.6	.3408	7 11 E	45 07	.3294	CS.d1
Do.	19 12	96 08	1907.3	7 31.7 E	45 23.1	.3300	7 26 E	45 14	.3312	MO.
Colima	19 12	103 51	1907.1	8 25.5 E	44 03.2	.3312	8 23 E	43 57	.3321	MO.
Mirador	19 13	96 37	1856.8	8 02 E	43 50	.3468	7 15 E	45 13	.3281	SM.d1
Near Benedicte I.	19 15	110 49	1874.2	**9 05.8 E	-- ----	----	9 42 E	-- --	----	UN.d
Mexico Hill	19 16	99 19	1903.7	7 16.6 E	44 47.8	.3222	7 19 E	44 52	.3215	MO.†
Chalco	19 18	98 51	1857.0	9 03 E	43 12	.3476	8 16 E	44 35	.3290	SM.d1
Toluca	19 18	99 39	1907.7	8 16.4 E	44 56.6	.3291	8 11 E	44 47	.3304	MO.
Cuajimalpa	19 21	99 18	1907.1	7 39.2 E	45 04.4	.3300	7 34 E	44 57	.3310	MO.
Do.	19 21	99 18	1907.1	7 47.3 E	44 59.7	.3292	7 41 E	44 52	.3305	CI .
Uruapam	19 25	101 57	1907.7	8 12.7 E	44 20.0	.3304	8 08 E	44 11	.3317	MO.
Mexico Nat'l Obsy.	19 26	99 07	1894.6	7 43.5 E	44 18.1	.3343	7 57 E	44 51	.3295	MO.
Xalapa	19 32	99 56	1907.8	7 27.7 E	44 06.8	.3269	7 22 E	43 57	.3283	MO.
Los Reyes	19 34	102 32	1907.7	8 28.1 E	44 29.3	.3335	8 23 E	44 21	.3348	MO.
Zapotlan	19 40	103 39	1907.1	8 38.2 E	44 44.9	.3288	8 35 E	44 38	.3297	MO.
Apam	19 41	98 12	1907.5	- ----	45 51.9	.3148	- --	45 43	.3160	MO.
Morelia	19 42	101 06	1906.9	8 19.7 E	45 08.0	.3311	8 16 E	45 02	.3320	MO.
Ascencion Bahia	19 44	89 28	1907.5	4 44.9 E	47 58.9	.3180	4 48 E	47 51	.3195	MO.
Campeche	19 50	90 33	1880.2	6 36.7 E	46 20.7	.3333	5 52 E	47 24	.3211	CS.d1
Teziutlan	19 50	97 26	1907.5	7 55.5 E	45 54.4	.3269	7 50 E	45 45	.3282	MO.
Zacatlan	19 56	97 59	1901.1	7 45.1 E	46 21.6	.3300	7 53 E	46 33	.3279	MO.‡
Acambaro	20 01	100 26	1906.9	8 06.5 E	45 40.6	.3300	8 03 E	45 34	.3309	MO.
Tulancingo	20 05	98 22	1907.5	7 51.6 E	46 17.1	.3254	7 47 E	46 08	.3267	MO.
Peto	20 08	88 52	1907.7	5 29.1 E	48 01.8	.3178	5 32 E	47 54	.3194	MO.
Pachuca	20 08	98 44	1907.8	8 07.9 E	46 25.4	.3274	8 03 E	46 15	.3288	MO.
Tulancingo	20 09	98 22	1901.3	7 31.0 E	45 56.7	.3273	7 39 E	46 10	.3253	MO. ††
Huichapan	20 23	99 39	1907.8	8 02.4 E	46 46.1	.3286	7 56 E	46 36	.3300	MO.
Tabo Bay	20 24	105 40	1874.2	8 54.2 E	-- ----	----	9 30 E	-- --	----	UN.d
La Piedad	20 26	101 42	1907.0	8 38.9 E	45 55.8	.3270	8 35 E	45 49	.3280	MO.
Cozumel, S. Miguel	20 30	87 12	1907.5	4 34.6 E	49 14.8	.3153	4 38 E	49 07	.3169	MO.
Cozumel I.	20 33	86 57	1879.3	5 12.3 E	48 06.5	.3309	4 22 E	49 02	.3182	CS.d1
Ameca	20 34	104 10	1907.4	9 09.6 E	45 35.4	.3303	9 06 E	45 28	.3314	MO.
Maxcanu	20 35	90 00	1907.5	5 35.5 E	50 00.0	.3163	5 37 E	49 52	.3178	MO.
Queretaro	20 36	100 22	1907.0	8 20.4 E	46 53.7	----	8 16 E	45 47	----	MO.
Peñas Anchorage	20 36	105 16	1874.2	8 52.0 E	-- ----	----	9 28 E	-- --	----	UN.d
Chemax	20 39	87 56	1907.6	5 05.2 E	49 18.8	.3155	5 08 E	49 11	.3172	MO.
Guadalajara	20 40	103 21	1907.1	7 56.0 E	46 00.7	.3274	7 51 E	45 54	.3283	MO.
Punta Mita	20 46	105 32	1874.3	8 57.3 E	-- ----	----	9 33 E	-- --	----	UN.d
Merida	20 58	89 39	1907.5	5 38.4 E	49 29.8	.3167	5 40 E	49 22	.3183	MO.
Morelos, Puerto	21 00	86 52	1907.5	4 33.8 E	49 58.8	.3159	4 38 E	49 51	.3176	MO.
Leon (rancho de Tampa).	21 07	101 39	1907.0	8 18.9 E	47 15.8	.3238	8 15 E	47 09	.3248	MO.
Lagos	21 07	101 56	1896.4	- ----	46 40.1	.3292	- --	47 02	.3254	MO.
Temax	21 09	88 52	1907.7	5 34.0 E	49 36.8	.3155	5 35 E	49 30	.3170	MO.
Mugeres I.	21 15	86 46	1879.3	4 49.3 E	49 32.9	.3257	3 58 E	50 28	.3130	CS.d1
Do.	21 16	86 45	1907.5	3 41.1 E	50 27.1	.3127	3 44 E	50 20	.3143	MO.

** On ships.

† Journal "Terrestrial Magnetism," v. XI, p. 153; dip as published diminished by 2°.

‡ M. Moreno y Anda, Journal "Terrestrial Magnetism," v. VII, p. 30.

†† V. Gama: Memoires Soc. Cient. Mexico, Aug. 1902, p. 78.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

MEXICO—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Progresso	21 17	89 40	1880.2	6 25.7 E	48 52.3	.3269	5 39 E	49 46	.3146	CS.d1
Do.	21 17	89 40	1907.5	5 48.0 E	50 00.0	.3137	5 50 E	49 52	.3153	MO.
Lagos	21 21	101 54	1907.0	8 30.6 E	47 15.4	.3245	8 27 E	47 07	.3255	MO.
Tepic	21 31	104 57	1907.7	9 04.5 E	46 47.8	.3248	9 00 E	46 40	.3260	MO.
San Blas	21 32	105 18	1880.9	9 18.1 E	46 20.8	.3322	9 46 E	47 13	.3245	CS.d1
Catoche, Cabo	21 36	87 04	1907.6	5 05.3 E	50 45.9	.3121	5 08 E	50 38	.3136	MO.
Linares *	21 52	99 28	1907.0	8 43.6 E	52 27.6	.3065	8 39 E	52 21	.3075	MO.
Aguascalientes	21 55	102 17	1897.6	8 14.5 E	47 19.0	.3235	8 25 E	47 42	.3204	MO.**
Rio Verde	21 56	100 00	1907.1	8 23.5 E	48 26.2	.3195	8 19 E	48 19	.3205	MO.
Isabel I.	21 56	105 41	1874.1	9 24 E	-- ----	----	10 00 E	-- --	----	UN.d
Valles	21 59	99 02	1907.0	8 11.1 E	48 44.0	.3205	8 07 E	48 37	.3215	MO.
Arenas Cay	22 07	91 25	1880.1	6 32.9 E	49 35.8	.3275	5 45 E	50 32	.3153	CS.d1
San Luis Potosi	22 09	100 55	1900.4	8 40.7 E	48 12.5	.3298	8 48 E	48 29	.3277	MO.†
Do.	22 09	100 58	1907.0	8 43.1 E	48 25.2	.3509(?)	8 39 E	48 19	----	MO.
Rincon de Romos	22 13	102 27	1907.3	8 44.9 E	48 28.6	.3190	8 40 E	48 22	.3201	MO.
Tampico	22 16	97 48	1907.0	8 01.3 E	49 32.3	.3180	7 57 E	49 25	.3191	MO.
Perez I.	22 24	89 42	1880.1	6 19.2 E	50 09.7	.3253	5 31 E	51 05	.3129	CS.d1
Guadalupe	22 47	102 33	1907.0	9 02.0 E	48 52.5	.3196	8 58 E	48 46	.3205	MO.
Zacatecas	22 47	102 33	1907.0	9 02.2 E	49 07.3	.3196	8 58 E	49 01	.3205	MO.
Do.	22 47	102 34	1902.6	8 57.3 E	-- ----	.3195	9 02 E	-- --	.3185	MO.††
Cape San Lucas	22 54	109 55	1881.1	9 26.2 E	47 23.2	.3275	9 50 E	48 05	.3210	CS.d1
Do.	22 53	109 55	1896.9	9 02.9 E	47 34.7	3339(?)	9 17 E	47 55	----	UN.
San Jose del Cabo	23 04	109 41	1873.2	10 32.4 E	47 25.2	.3231	11 01 E	48 13	.3137	CS.d1
Do.	23 04	109 41	1881.1	9 43.8 E	-- ----	----	10 09 E	-- --	----	CS.d1
Mazatlan	23 11	106 26	1907.2	10 04.5 E	49 17.8	.3150	10 02 E	49 12	.3159	MO.
Do.	23 12	106 27	1881.1	9 39.4 E	48 15.8	.3250	10 07 E	49 07	.3177	CS.d1
Todos Santos	23 27	110 14	1896.1	9 11.9 E	49 00.4	.3308(?)	9 27 E	49 21	----	UN.
Observation Point	23 33	109 29	1875.1	9 57.5 E	-- ----	----	10 25 E	-- --	----	UN.d
Catorce	23 42	100 57	1907.0	8 38.4 E	50 39.8	.3192	8 34 E	50 33	.3202	MO.
Ciudad Victoria	23 43	99 08	1907.0	8 33.5 E	50 59.0	.3137	8 28 E	50 54	.3147	MO.
Bermejillo *	23 51	103 42	1907.1	9 14.6 E	53 09.1	.3036	9 11 E	53 03	.3045	MO.
Punta Arena	24 04	109 50	1875.1	10 06.3 E	-- ----	----	10 30 E	-- --	----	UN.d
La Paz	24 10	110 12	1907.2	10 46.5 E	49 46.0	.3169	10 42 E	49 42	.3177	MO.
La Paz, El Mogote	24 10	110 21	1881.1	10 09.2 E	49 10.1	.3238	10 35 E	49 52	.3173	CS.d1
Pichilinque Bay	24 16	110 20	1881.1	9 45.1 E	49 48.5	.3175	10 08 E	50 30	.3111	CS.d1
Do.	24 16	110 20	1897.1	9 19.1 E	50 22.2	.3241(?)	9 36 E	50 37	----	UN.
El Conejo	24 21	111 30	1875.0	10 40.0 E	-- ----	----	11 04 E	-- --	----	UN.d
Cresainte I.	24 21	111 30	1875.0	9 52.5 E	-- ----	----	10 16 E	-- --	----	UN.d
Luponu Pt.	24 24	110 21	1875.1	9 25.7 E	-- ----	----	9 50 E	-- --	----	UN.d
Canatlan	24 31	104 46	1907.1	9 51.8 E	50 41.3	.3124	9 47 E	50 36	.3133	MO.
Altata	24 37	107 55	1874.1	10 40 E‡	-- ----	----	11 06 E	-- --	----	UN.d
Do.	24 39	108 00	1907.2	-- ----	50 43.4	----	-- --	50 38	----	MO.
Magdalena Bay *	24 38	112 09	1907.5	11 12.0 E	48 46.9	.3165	11 07 E	48 42	.3172	CS.8
Do.*	24 38	112 09	1881.1	10 29.1 E	48 18.7	.3243	10 53 E	49 01	.3186	CS.d1
Do.*	24 38	112 09	1895.2	9 57.7 E	48 31.3	.3333(?)	10 18 E	48 52	----	UN.
Do.*	24 40	112 09	1907.5	11 17.3 E	49 24.5	.3147	11 12 E	49 19	.3154	CS.8
San Juan Nepomuceno	24 43	100 55	1900.4	9 05.9 E	51 29.2	.3750(?)	9 17 E	51 41	----	MO.†
Santa Maria Bay	24 45	112 16	1875.0	10 45.3 E	-- ----	----	11 08 E	-- --	----	UN.d
Isle San Josef	24 55	110 37	1881.1	9 47.6 E	49 38.5	.3153	10 10 E	50 20	.3096	CS.d1
Playa Colorado	25 12	108 24	1874.1	10 40.5 E	-- ----	----	11 05 E	-- --	----	UN.d
Boca Soledad	25 16	112 08	1875.0	11 07.5 E	-- ----	----	11 25 E	-- --	----	UN.d
Tepehuanes	25 21	105 46	1907.1	10 22.1 E	51 51.6	.3076	10 18 E	51 46	.3084	MO
Parras	25 23	101 03	1907.1	9 26.4 E	52 39.5	.3072	9 22 E	52 33	.3083	MO.
Navachista	25 23	108 49	1874.1	10 20.2 E	-- ----	----	10 45 E	-- --	----	UN.d
Saltillo	25 25	101 00	1907.0	9 02.5 E	52 57.8	.3032	8 58 E	52 52	.3042	MO.
San Marcial Pt.	25 29	111 02	1873.9	10 57.5 E	-- ----	----	11 18 E	-- --	----	UN.d
Do.	25 29	111 02	1875.1	10 11.0 E	-- ----	----	10 35 E	-- --	----	UN.d
Topolobampo	25 34	109 10	1874.1	10 40.5 E	-- ----	----	11 10 E	-- --	----	UN.d
Point San Ignacio	25 36	109 17	1881.0	10 15.3 E	-- ----	----	10 39 E	-- --	----	CS.d
Monterey	25 40	100 18	1907.0	8 59.0 E	53 23.8	.3044	8 53 E	53 17	.3054	MO.
Do.	25 40	100 18	1907.0	9 01.5 E	53 20.4	.3047	8 57 E	53 14	.3058	CI.

* Local disturbance.

** M. Moreno y Anda: Journal "Terrestrial Magnetism," Vol. IV, p. 91.

† M. Moreno y Anda: MS.

†† M. Moreno y Anda: Journal "Terrestrial Magnetism," Vol. VIII, p. 76.

‡ On ship.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

MEXICO—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c.g.s.*	° ′	° ′	*c.g.s.*	
San Pedro	25 46	102 59	1907.0	9 43.1 E	53 00.8	.3060	9 38 E	52 56	.3070	CI.
Carmen I.	26 00	111 07	1873.9	11 27.7 E	-- ----	----	11 45 E	-- --	----	UN.d
Loreto	26 01	111 20	1881.1	10 16.3 E	51 00.8	.3130	10 35 E	51 43	.3075	CS.d1
San Juanico Pt.	26 03(?)	112 40(?)	1875.0	10 49.5 E	-- ----	----	11 10 E	-- --	----	UN.d
Camargo	26 16	98 51	1907.0	8 40.6 E	54 23.2	.3012	8 35 E	54 18	.3024	CI.
San Juanico	26 16	112 28	1881.2	10 31.1 E	51 48.1	.3084	10 50 E	52 30	.3028	CS.d1
Do.	26 16	112 28	1893.1	10 00.8 E	52 08.0	.3196	10 28 E	52 32	.3168	UN.
Agiabampo	26 17	109 18	1874.1	12 01 E	-- ----	----	12 15 E	-- --	----	UN.d
San Domingo Pt.	26 19	112 42	1875.0	10 21 E	-- ----	----	10 35 E	-- --	----	UN.d
Pulpito Pt.	26 31	111 27	1873.9	10 50.7 E	-- ----	----	11 05 E	-- --	----	UN.d
Do.	26 31	111 27	1875.1	11 33.6 E	-- ----	----	11 48 E	-- --	----	UN.d
Santa Barbara Bay	26 42	109 38	1881.0	10 48.4 E	52 21.2	.3105	11 10 E	53 03	.3050	CS.d1
Escalon	26 44	104 19	1907.0	10 06.4 E	53 52.1	.3018	10 01 E	53 47	.3026	CI.
San Ignacio Pt.	26 46	113 16	1875.0	12 07.8 E	-- ----	----	12 22 E	-- --	----	UN.d
Point Abrecjos	26 47	113 31	1881.2	11 15.5 E	51 47.7	.3092	11 35 E	52 30	.3038	CS.d1
Do.	26 47	113 32	1890.0	10 58 E	51 52	.3200(?)	11 26 E	52 21	----	UN.d1
Santa Barbara	26 49	105 47	1907.0	10 36.4 E	53 47.6	.3007	10 32 E	53 42	.3015	CI.
Mulege	26 54	111 58	1881.1	11 13.4 E	52 05.5	.3100	11 32 E	52 47	.3046	CS.d1
Ciaris I	26 59	109 57	1874.1	11 16.2 E	-- ----	----	11 30 E	-- --	----	UN.d
Cuatro Cienegas	27 00	102 04	1907.0	9 44.0 E	54 37.2	.2987	9 39 E	54 32	.2997	CI.
Ascension I.	27 06	114 18	1881.2	11 23.0 E	51 43.4	.3094	11 42 E	52 20	.3039	CS.d1
Do.	27 06	114 18	1889.9	10 58.5 E	51 53.3	.3202(?)	11 26 E	52 16	----	UN.d1
Jiminez	27 06	104 57	1902.6	9 57.6 E	-- ----	.3030	10 04 E	-- --	.3023	MO.†
Do.	27 09	104 54	1907.0	10 26.7 E	54 12.1	.2997	10 22 E	54 08	.3005	CI.
San Marcos I.	27 10	112 06	1875.1	10 37.8 E	-- ----	----	10 52 E	-- --	----	UN.d
Sierra Mojada	27 19	103 37	1907.0	10 02.9 E	54 38.6	.2990	9 58 E	54 35	.2998	CI.
Santa Rosalia	27 20	112 18	1892.8	10 51 E	52 40	.3136	11 18 E	53 06	.3107	FN.
Off Lobos I.	27 20	110 38	1874.1	11 30.6 E	-- ----	----	11 45 E	-- --	----	UN.
Santa Maria Cove	27 25	112 20	1881.1	11 06.3 E	52 56.8	.3080	11 25 E	53 33	.3025	CS.d1
San Bartolome Bay	27 39	114 52	1888.4	11 30 E	52 58.0	.3165(?)	11 57 E	53 24	----	UN.d
Sabinas	27 53	101 05	1907.0	9 45.4 E	56 00.1	.2926	9 40 E	55 55	.2936	CI.
Guaymas	27 55	110 53	1881.0	11 48.0 E	52 58.0	.3052	12 07 E	53 34	.2997	CS.d1
Do.	27 55	110 51	1906.9	12 19.9 E	53 50.1	.2992	12 14 E	53 46	.2996	CI.
San Carlos Pt.	28 00	112 48	1873.9	12 00.1 E	-- ----	----	12 14 E	-- --	----	UN.d
Do.	28 00	112 48	1875.1	11 45.7 E	-- ----	----	12 00 E	-- --	----	UN.d
San Pedro Anchorage	28 03	111 16	1874.0	12 24.6 E	-- ----	----	12 39 E	-- --	----	UN.d
Cerros I.	28 03	115 13	1888.3	11 40.5 E	53 03.1	.3122(?)	12 06 E	53 30	----	UN.d1
Do.	28 03	115 11	1881.2	11 58.6 E	52 55.0	.3045	12 18 E	53 29	.2990	CS.d1
Do.	28 04	115 12	1873.1	11 45.2 E	52 30.5	.2999	12 00 E	53 18	.2916	CS.do
Do.	28 04	115 12	1888.4	11 38.4 E	52 54.7	.3157(?)	12 04 E	53 22	----	UN.d1
Lagoon Head	28 14	114 06	1873.1	11 50.8 E	-- ----	----	12 05 E	-- --	----	UN.d
Do.	28 15	114 06	1888.0	11 31.0 E	54 00.7	.3194(?)	11 57 E	54 28	----	UN.d1
San Beneto I.	28 18	115 35	1889.1	11 26.6 E	52 49.4	.3280(?)	11 54 E	53 14	----	UN.d1
Santa Teresa Bay	28 25	112 52	1881.0	11 42.0 E	53 49.0	.3030	12 01 E	54 17	.2975	CS.d1
Chihuahua *	28 38	106 04	1902.5	10 31.0 E	55 50.6	.2939	10 38 E	55 57	.2932	MO.†
Çhihuahua, Sta. A*	28 38	106 06	1906.9	13 28.9 E	54 26.2	.2993	13 24 E	54 22	.3000	CI.
Chihuahua, Sta. B*	28 39	106 03	1906.9	12 13.5 E	55 56.3	.2919	12 08 E	55 51	.2926	CI.
Rosalia Bay	28 40	114 14	1888.2	9 26.3 E	56 07.2	.2955	9 53 E	56 28	.2918	UN.d1
Kino Bay	28 46	111 59	1874.0	12 32.9 E	-- ----	----	12 47 E	-- --	----	UN.d
Tiburon I.	28 46	112 22	1874.0	12 28.2 E	-- ----	----	12 42 E	-- --	----	UN.d
Las Animas	28 48	113 13	1873.9	12 35.6 E	-- ----	----	12 49 E	-- --	----	UN.d
Do.	28 48	113 13	1875.1	10 17.5 E	-- ----	----	10 31 E	-- --	----	UN.d
Raza I.	28 49	113 00	1873.9	12 52.5 E	-- ----	----	13 06 E	-- --	----	UN.d
Do.	28 49	113 00	1875.2	12 30.0 E	-- ----	----	12 44 E	-- --	----	UN.d
Guadalupe I.	28 55	118 15	1881.2	12 54.8 E	53 38.9	.2961	13 17 E	54 04	.2912	CS.d1
La Plaja, Maria Bay	28 56	114 32	1889.4	10 21.4 E	55 10.9	.3025(?)	11 50 E	55 32	----	UN.d1
Angeles Bay	28 57	113 35	1873.9	12 41.4 E	-- ----	----	12 56 E	-- --	----	UN.d
Temosachic	28 59	107 51	1906.9	11 22.6 E	55 49.4	.2927	11 17 E	55 46	.2933	CI.
Angel de la Gardia I.	29 00	113 12	1875.1	12 28.8 E	-- ----	----	12 43 E	-- --	----	UN.d
Hermosillo	29 04	110 56	1906.9	11 58.8 E	55 26.6	.2926	11 53 E	55 24	.2930	CI.
Tiburon I.	29 12	112 27	1881.0	11 59.3 E	54 59.2	.2986	12 18 E	55 22	.2930	CS.d1
Remedios Bay	29 14	113 40	1873.9	12 33.4 E	-- ----	----	12 49 E	-- --	----	UN.d
Patos I.	29 16	112 29	1874.0	13 00.2 E	-- ----	----	13 14 E	-- --	----	UN.d
Patos I., N. end	29 32	113 30	1875.2	12 31.9 E	-- ----	----	12 46 E	-- --	----	UN.d
Mejia I.	29 33	113 35	1874.0	12 28.0 E	-- ----	----	12 42 E	-- --	----	UN.d
Do.	29 33	113 35	1875.1	12 04.5 E	-- ----	----	12 19 E	-- --	----	UN.d

* Local disturbance.

† M. Moreno y Anda: Journal "Terrestrial Magnetism," Vol. VIII, p. 76.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

MEXICO—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Presidio del Norte	29 34	104 25	1852.5	10 16 E	55 41	----	-- --	56 34	----	CS.d1**
San Geronimo I.	29 47	115 48	1881.2	12 42.2 E	54 30.0	.2965	13 08 E	54 54	.2916	CS.d1
Do.	29 47	115 48	1888.4	12 23.6 E	54 52.2	.3092(?)	12 53 E	55 12	----	UN.d1
San Luis Gonzales	29 51	114 25	1881.0	12 27.3 E	55 11.3	.2962	12 53 E	55 35	.2913	CS.d1
Libertad Bay	29 54	112 45	1874.0	12 56 E	-- ----	----	13 12 E	-- --	----	UN.d
Sepoca Bay	30 16	112 53	1875.2	12 16.7 E	-- ----	----	12 33 E	-- --	----	UN.d
San Quentin	30 22	115 59	1873.7	12 59.7 E	-- ----	----	13 26 E	-- --	----	UN.d
Nueva Casas Grandes	30 25	107 56	1906.9	11 52.0 E	57 23.2	.2855	11 47 E	57 20	.2861	CI.
San Firrmin	30 25	114 40	1874.0	11 14 E	-- ----	----	11 39 E	-- --	----	UN.d
San Martin I.	30 29	116 07	1873.1	13 20.5 E	-- ----	----	13 45 E	-- --	----	UN.d
Do.	30 29	116 07	1881.2	12 55.7 E	55 34.4	.2940	13 25 E	55 55	.2893	CS.d1
Do.	30 29	116 06	1888.5	12 23.2 E	55 21.0	.3085(?)	12 55 E	55 37	----	UN.d1
Cape Colnet	30 58	116 17	1889.4	13 14.9 E	56 27.2	.3046(?)	13 46 E	56 40	----	UN.d1
Georges I.	31 01	113 17	1874.0	13 29.9 E	-- ----	----	13 50 E	-- --	----	UN.d
Do.	31 01	113 17	1875.2	12 43.5 E	-- ----	----	13 04 E	-- --	----	UN.d
Felipe	31 02	114 50	1881.0	12 57.2 E	56 25.2	.2892	13 24 E	56 46	.2844	CS.d1
Rocky Point	31 17	113 33	1881.0	13 27.0 E	57 14.7	.2882	13 54 E	57 36	.2834	CS.d1
Espia	31 21	107 56	1855.2	12 05 E	57 59	.2878	12 22 E	58 38	.2777	CS.d1†
Adair Bay	31 30	114 08	1874.0	13 19.7 E	-- ----	----	13 46 E	-- --	----	UN.d
Santo Tomas Anch.	31 33	116 41	1889.4	13.46.2 E	57 10.5	.2943(?)	14 15 E	57 18	----	UN.d1
Ciudad Juarez	31 43	106 30	1902.6	-- ----	59 21.0	----	-- --	59 25	----	MO.*
Phillips Point	31 46	114 43	1881.0	13 05.7 E	57 31.8	.2852	13 32 E	57 53	.2804	CS.d1
Todos Santos	31 51	116 38	1881.3	12 00.8 E	58 30.6	.2787	12 29 E	58 51	.2742	CS.d1
Ensinada Anchorage	31 51	116 38	1873.7	12 41.2 E	-- ----	----	13 12 E	-- --	----	UN.d
Los Coronados Ids.	32 25	117 15	1889.4	13 09.4 E	57 49.8	.2959(?)	13 43 E	57 57	----	UN.d1

WEST INDIES AND BAHAMA ISLANDS

North of Kingston and west of meridian 69° W.

	° ′	° ′		° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	
Kingston	17 59	76 54	1905.3	1 30.1 E	47 21.8	.3131	1 30 E	47 21	.3133	CS.5
San Pedro de Macoris	18 28	69 20	1903.2	0 02.6 W	49 01.0	.3024	0 12 W	49 07	.3011	CS.3††
Santo Domingo	18 29	69 53	1903.2	0 03.0 E	48 37.1	.3026	0 06 W	48 43	.3013	CS.3††
Port au Prince	18 33	72 25	1887.3	1 44 E	47 11.5	----	1 00 E	47 42	----	FN.‡
Port Plata	19 49	70 41	1889.9	0 36.6 E	49 50.4	.3074	0 08 W	50 20	.2990	UN.d1
Cape Cruz	19 50	77 44	1902.3	1 41.2 E	-- ----	----	1 37 E	-- --	----	UN.
Ensenada de Mora	19 54	77 19	1903.2	1 48.3 E	48 21.8	.3101	1 45 E	48 25	.3087	UN.
El Portillo	19 55	77 11	1890.0	2 33.9 E	-- ----	----	1 59 E	-- --	----	UN.
Rio Tarquino	19 56	70 45	1902.3	1 29.0 E	-- ----	----	1 24 E	-- --	----	UN.
Guantanamo	20 00	75 15	1899.1	0 43.5 E	-- ----	----	0 34 E	-- --	----	UN.
Santiago	20 00	75 50	1903.2	1 32.4 E	50 44.2	.3048	1 29 E	50 48	.3036	CS.3††
Do.	20 00	75 51	1887.1	2 33.1 E	48 40	----	1 45 E	49 11	----	FN.‡
Santiago (near "Club Nautics")	20 00	75 51	1899.2	1 45 E	-- ----	----	1 35 E	-- --	----	UN.
Manzanillo	20 21	77 08	1902.3	1 40.2 E	-- ----	----	1 36 E	-- --	----	UN.
Baracoa	20 22	74 29	1903.2	0 59.8 E	50 37.7	.3042	0 57 E	50 41	.3031	CS.3††
Santa Cruz del Sur	20 42	78 00	1902.3	1 42.2 E	-- ----	----	1 38 E	-- --	----	UN.
Port Tanamo	20 45	75 20	1901.5	1 02.1 E	-- ----	----	0 56 E	-- --	----	UN.
Nipe Bay, Carnero Pt.	20 45	75 45	1900.5	1 06 E	-- ----	----	0 58 E	-- --	----	UN.
Pilot Point	20 47	78 57	1902.1	2 06.4 E	-- ----	----	2 02 E	-- --	----	UN.
Banes	20 54	75 41	1900.2	1 17.5 E	-- ----	----	1 09 E	-- --	----	UN.
Cayo Grande	21 00	79 14	1902.1	2 06.8 E	-- ----	----	2 02 E	-- --	----	UN.
Gibara Homos Pt.	21 07	76 10	1900.0	1 32.9 E	-- ----	----	1 24 E	-- --	----	UN.
Gibara	21 07	76 10	1903.2	1 14.7 E	50 45.6	.3050	1 12 E	50 49	.3039	CS.3††
Port Padre	21 15	76 30	1900.5	1 03 E	-- ----	----	0 55 E	-- --	----	UN.
Ensenada de Carapachi bey I. of Pines)	21 27	82 56	1902.0	3 06.6 E	-- ----	----	3 02 E	-- --	----	UN.
Cocodrilos Cove, I. of Pines	21 28	83 04	1902.1	3 03.1 E	-- ----	----	2 58 E	-- --	----	UN.

** U. S. and Mexico Boundary Survey; W. H. Emory, observer; Am. Acad. Sc. Vol. VI, 1856.
† M. Moreno y Anda: Journal "Terrestrial Magnetism," Vol. VIII, p. 76.
†† Inclination supplied.
‡ French navy, M. Aubrey.

TABLE I.—*Observed magnetic elements and the values reduced to January 1, 1905*—Continued.

WEST INDIES AND BAHAMA ISLANDS—Continued

North of Kingston and west of meridian 69° W.—Continued.

Station	Latitude N.	Longitude W. of Gr.	Date	Observed			Reduced to 1905.0			Source
				Decl'n	Incl'n	H. Int.	Decl'n	Incl'n	H. Int.	
	° ′	° ′		° ′	° ′	*c.g.s.*	° ′	° ′	*c.g.s.*	
Nuevitas	21 30	77 15	1900.3	1 36.8 E	-- ----	----	1 29 E	-- --	----	UN.
Rosario Cay	21 36	81 54	1902.0	2 54.7 E	-- ----	----	2 50 E	-- --	----	UN.
Port Frances, I. of Pines	21 36	83 09	1902.0	3 02.3 E	-- ----	----	2 57 E	-- --	----	UN.
Jucaro	21 37	78 51	1902.3	1 42.9 E	-- ----	----	1 38 E	-- --	----	UN.
Tunas	21 38	79 34	1902.3	2 20.9 E	-- ----	----	2 16 E	-- --	----	UN.
East Guano Cay	21 39	81 02	1902.1	2 28 E	-- ----	----	2 23 E	-- --	----	UN.
Cape Corrientes	21 44	84 30	1902.0	3 42.4 E	-- ----	----	3 37 E	-- --	----	UN.
Casilda	21 45	79 59	1902.3	2 17.2 E	-- ----	----	2 13 E	-- --	----	UN.
Colorado Reef	21 54	84 52	1901.4	3 43.8 E	-- ----	----	3 38 E	-- --	----	UN.
Cape San Antonio	21 55	84 55	1879.3	4 44.0 E	50 14.9	.3244	3 45 E	50 58	.3127	CS.d1
Piedras Cay	21 58	81 07	1902.2	2 37.1 E	-- ----	----	2 32 E	-- --	----	UN.
Arroyos	22 20	84 20	1903.0	3 46 E	-- ----	----	3 43 E	-- --	----	UN.
Batabano	22 42	82 18	1905.4	2 55.5 E	52 34.1	.3030	2 56 E	52 33	.3032	CI.
Pinar del Rio	22 56	83 42	1905.4	3 45.6 E	51 56.8	.3056	3 46 E	51 56	.3058	CI.
Bahia Honda	22 58	83 12	1879.2	4 03.4 E	52 18.4	.3162	3 06 E	53 01	.3050	CS.d1
Do.	22 58	83 10	1904.3	3 14.8 E	-- ----	----	3 14 E	-- --	----	UN.
Cabanas	22 59	83 00	1904.4	3 01.3 E	-- ----	----	3 00 E	-- --	----	UN.
Matanzas, A	23 03	81 35	1905.4	2 27.7 E	52 58.6	.3008	2 28 E	52 58	.3010	CI.
Matanzas	23 03	81 37	1879.2	3 26.4 E	52 23.4	.3146	2 29 E	52 56	.3049	CS.d1
Matanzas, B	23 04	81 36	1905.4	2 35.9 E	53 06.1	.3010	2 36 E	53 05	.3012	CI.
Clarence Town	23 06	74 59	1903.5	0 13.4 W	53 47.3	.2939	0 15 W	53 51	.2930	†
Habana, villa	23 07	82 22	1903.2	3 02.5 E	52 54.0	.3045	2 59 E	52 58	.3035	CS.3‡
Do.	23 07	82 22	1905.4	2 59.1 E	52 59.8	.3030	3 00 E	52 59	.3032	CI.
Habana, at Cabana	23 07	82 22	1902.4	2 42.1 E	-- ----	----	2 38 E	-- --	----	UN.
Habana, at Triscornia Resn.	23 08	82 22	1902.4	2 37.2 E	-- ----	----	2 33 E	-- --	----	UN.
Habana, college	23 08	82 22	1903.2	3 04.4 E	52 55.0	.3048	3 01 E	52 59	.3038	CS.3‡
Do.	23 08	82 22	1905.4	2 57.8 E	52 59.1	.3028	2 58 E	52 58	.3030	CI.
Water Cay	23 59	80 21	1879.2	2 50.7 E	53 41.6	.3109	1 48 E	54 13	.2997	CS.d1
Chirivico	24 00	79 45	1900.4	1 22.4 E	-- ----	----	1 15 E	-- --	----	UN.
Cockburntown	24 04	74 26	1903.5	0 18.0 W	55 03.2	.2882	0 20 W	55 07	.2873	†
Nassau, Prov. I.	25 06	77 20	1879.1	1 25.6 E	55 50.5	.2998	0 23 E	56 10	.2886	CS.d1
Nassau, old Gov. H.	25 05	77 22	1903.5	0 20.1 E	56 09.5	.2872	0 18 E	56 14	.2864	†
Nassau, pub. sq.	25 05	77 21	1903.5	0 13.1 E	-- ----	----	0 11 E	-- --	----	†
Nassau, Hog I.	25 06	77 21	1903.5	0 24 E	-- ----	----	0 22 E	-- --	----	†
South Bemini	25 42	79 18	1879.2	2 27.9 E	56 20.3	.2973	1 25 E	56 40	.2876	CS.d1
Hope Town	26 31	76 58	1903.6	- ----	58 06.7	----	- --	58 11	----	†

† Magnetic observations in the Bahama Islands by O. L. Fassig, Johns Hopkins Press, Baltimore, 1905.
‡ Inclinations supplied.

TABLE II.

MAGNETIC OBSERVATIONS ON THE U. S. COAST AND GEODETIC SURVEY VESSELS JANUARY 1, 1903, TO JUNE 30, 1907.

MAGNETIC OBSERVATIONS AT SEA.

Explanatory remarks.

In Table II are compiled the results of the ocean magnetic observations made on the vessels of the Coast and Geodetic Survey from January 1, 1903, to June 30, 1907, north of the parallel 15° north, in the Atlantic Ocean, Gulf of Mexico, and Pacific Ocean. The observed results for declination (variation of the compass), inclination, total intensity, and horizontal intensity are given, also the geographic position, date, ship, number of headings of ship observed upon and character of sea, so as to enable one to form some general idea, at least, of the value of the observations. As the observations are within a few years of the intermediate epoch, 1905.0, it was not considered worth while to reduce them to 1905.0, especially as the reduction would be considerably smaller, in general, than the observation error.

In addition to these data there were utilized preliminary results obtained by the Magnetic Survey yacht *Galilee*, of the Carnegie Institution, in the Pacific Ocean, as also the results of observations made both in the Atlantic and in the Pacific oceans by vessels of the British navy, the French navy, and United States Navy within the past ten or fifteen years. In view of the complete compilations of magnetic data for all regions undertaken by the Carnegie Institution, Table II gives only the results obtained by the Coast and Geodetic Survey vessels.

Summary of results tabulated.

	Number of—				
	Localities	Stations	Declinations	Inclinations	Intensities
Atlantic Ocean	101	157	147	122	114
Gulf of Mexico	19	28	27	24	24
Pacific Ocean	46	56	51	34	34
Total	166	241	225	180	172

TABLE II.—*Magnetic Observations on the United States Coast and Geodetic Survey vessels, from January 1, 1903, to June 30, 1907.*

ATLANTIC OCEAN NORTH OF 15° N.

Station	Latitude N.	Longitude W. of Gr.	Date	Observed				Ship	No. of headings†	Sea
				Decl'n	Incl'n	T. Int.	H. Int.			
	° ′	° ′		° ′	° ′	*c.g.s.*	*c.g.s.*			
At sea	17 56	66 30	1906.1	1 31 W	48 21	.4508	.2996	Explorer	16	Sm.
Do.	17 57	63 20	1907.2	3 06 W	49 15	.4463	.2913	do.	3	Lt.sw.
Mayaguez	18 15	67 12	1904.1	0 49 W	49 10	.4486	.2933	Bache	16	Sm.
Do.	18 15	67 12	1904.4	0 58 W	49 20	.4531	.2953	do.	16	Sm.
Fajardo Roads	18 21	65 36	1903.1	1 45 W	49 02	----	----	Blake	‡‡16	Mod.sw.
Do.	18 21	65 36	1903.4	1 35 W	49 15	.4580	.2990	do.	16	Sm.
Do.	18 21	65 36	1904.4	- --	49 28	.4570	.2970	do.	16	Sm.
Do.	18 22	65 36	1904.2	0 52 W	49 19	.4558	.2971	do.	16	Mod.sw.
Do.	18 21	65 36	1905.3	1 41 W	49 16	.4539	.2962	Explorer	16	Sm.
Do.	18 21	65 36	1905.4	1 38 W	49 26	.4539	.2952	do	16	Mod.sw.
Do.	18 21	65 36	1906.1	- --	49 06	.4534	.2969	do.	16	Mod.sw.
Do.	18 21	65 36	1906.4	2 03 W	49 22	.4544	.2959	do.	16	Lt.sw.
Do.	18 21	65 36	1907.1	2 05 W	49 22	.4558	.2968	Bache	16	Lt.sw.
Do.	18 21	65 36	1907.1	2 06 W	-- --	----	----	do.	8	Mod.sw.
Do.	18 21	65 36	1907.4	2 23 W	49 23	.4554	.2965	do.	16	Sm.
At sea	20 14	66 51	1904.2	1 50 W	51 18	.4701	.2939	Blake	16	Mod.sw.
Do.	21 02	64 57	1907.2	4 10 W	52 46	.4699	.2843	Explorer	3	Mod.sw.
Do.	21 03	66 15	1906.0	4 41 W	52 05	.4725	.2904	do.	3	Hvy.sw.
Do.	21 12	67 17	1904.2	- --	53 06	.4767	.2862	Blake	16	Mod.sw.

†Unless otherwise designated, the ship was swung with both helms on the same points, the number of points being given by the numeral. When the number of points is less than 8, it means that either the swing was incomplete, for one reason or another, or that observations were made on the course, a point port, a point starboard, and back on course.

‡‡The ship was swung with but one helm.

TABLE II.—*Magnetic Observations on the United States Coast and Geodetic Survey vessels, from January 1, 1903, to June 30, 1907*—Continued.

ATLANTIC OCEAN NORTH OF 15° N.—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed				Ship	No. of headings †	Sea
				Decl'n	Incl'n	T. Int.	H. Int.			
	° ′	° ′		° ′	° ′	*c.g.s.*	*c.g.s.*			
At sea	21 35	67 25	1905.2	2 42 W	53 03	.4767	.2866	Explorer	16	Rough
Do.	21 52	67 47	1905.4	1 49 W	53 02	.4782	.2876	do.	16	Hvy.sw.
Do.	22 00	68 00	1904.1	1 57 W	54 08	.4782	.2808	Bache	8	Rough
Do.	22 10	74 20	1905.2	0 47 E	-- --	----	----	do.	2	Sm.
Do.	22 12	66 32	1907.4	3 20 W	54 02	.4780	.2807	do.	8	Lt.sw.
Do.	22 12	67 07	1906.4	- --	53 16	.4818	.2882	Explorer	3	Mod.sw.
Do.	22 15	68 55	1907.1	2 07 W	54 06	.4814	.2822	Bache	8	Hvy.sw.
Do.	23 05	68 25	1905.4	2 05 W	54 33	.4857	.2817	Explorer	3	Hvy.sw.
Do.	23 26	68 12	1905.2	2 39 W	55 05	.4939	.2827	do.	3	Mod.sw.
Do.	23 30	68 09	1904.2	2 29 W	55 20	.4943	.2812	Blake	16	Sm.
Do.	23 55	66 43	1907.2	3 50 W	56 08	.4966	.2767	Explorer	3	Mod.sw.
Do.	24 00	66 30	1906.0	3 03 W	55 25	.4887	.2774	do.	16	Mod.sw.
Do.	24 04	67 54	1906.4	2 22 W	56 02	.4935	.2757	do.	16	Mod.sw.
Do.	24 29	68 35	1904.2	3 26 W	56 26	.5005	.2767	Blake	16	Sm.
Do.	24 46	80 34	1906.4	2 22 E	55 33	.5120	.2896	Bache	8	Lt.sw.
Do.	24 55	68 43	1905.2	2 50 W	56 48	.5031	.2754	Explorer	16	Mod.sw.
Do.	24 55	80 27	1906.1	1 18 E	55 46	.5183	.2916	Bache	8	Sm.
Do.	25 15	68 15	1906.4	1 12 W	56 55	.5030	.2746	Explorer	3	Mod.sw.
Do.	25 16	69 35	1904.1	2 40 W	57 34	.5031	.2698	Bache	8	Hvy.sw.
Do.	25 16	71 28	1907.1	2 51 W	57 05	.5070	.2755	do.	8	Hvy.sw.
Do.	25 48	77 17	1906.1	0 23 W	57 23	.5254	.2832	do.	8	Sm.
Do.	26 13	66 56	1907.4	4 40 W	58 04	.5032	.2662	do.	8	Lt.sw.
Do.	26 48	69 46	1905.2	3 20 W	58 57	.5209	.2689	Explorer	3	Mod.sw
Do.	27 09	68 46	1907.2	4 20 W	59 36	.5180	.2621	do.	8	Lt.sw.
Do.	27 28	70 52	1904.4	3 40 W	59 09	.5235	.2684	Blake	16	Mod.sw.
Do.	28 10	71 10	1904.1	3 04 W	60 24	.5298	.2617	Bache	8	Hvy.sw.
Do.	28 12	71 04	1903.4	- --	60 03	.5349	.2670	Blake	8	Rough
Do.	28 16	71 00	1903.1	3 58 W	59 55	----	----	do.	8	Mod.sw.
Do.	28 18	70 25	1905.2	3 40 W	60 10	.5265	.2619	Explorer	16	Mod.sw.
Do.	28 53	73 23	1907.1	3 05 W	60 38	.5345	.2621	Bache	8	Hvy.sw.
Do.	29 59	76 13	1906.1	2 33 W	62 14	.5532	.2577	do.	8	Hvy.sw.
Do.	30 01	70 23	1907.2	4 06 W	61 56	.5431	.2555	Explorer	3	Mod.sw.
Do.	30 08	71 25	1905.2	4 38 W	62 03	.5403	.2532	do.	3	Hvy.sw.
Do.	30 14	70 27	1906.4	3 48 W	62 12	.5380	.2509	do.	3	Mod.sw.
Do.	30 46	72 39	1904.4	3 52 W	62 47	.5472	.2503	Blake	16	Mod.sw.
Do.	30 56	81 12	1905.4	0 12 E	62 32	.5525	.2548	Bache	8	Choppy
Do.	31 15	72 52	1904.1	3 12 W	63 32	.5485	.2445	do.	8	Sm.
Do.	31 22	72 06	1905.2	4 26 W	63 30	.5494	.2451	Explorer	16	Mod.sw.
Do.	31 26	71 19	1906.4	4 42 W	63 30	.5486	.2448	do.	16	Lt.sw.
Do.	31 40	72 56	1904.4	4 07 W	63 07	.5565	.2516	Bache	8	Rough
Do.	31 53	73 16	1905.4	3 33 W	64 06	.5494	.2400	Explorer	16	Hvy.sw.
Do.	32 34	75 36	1906.1	3 59 W	64 37	.5660	.2426	Bache	8	Lt.sw.
Do.	32 35	74 20	1907.1	4 38 W	-- --	----	----	do	7+3	Rough
Off Charlestown	32 42	79 46	1903.4	0 51 W	-- --	----	----	do.	16	Roll
Do	32 45	79 53	1903.5	1 01 W	-- --	----	----	Hydrog.	‡16	
At sea	33 12	73 02	1905.2	2 52 W	65 08	.5585	.2349	Explorer	3	Rough
Do.	33 13	73 17	1904.2	4 35 W	65 00	.5658	.2391	Blake	16	Mod.sw.
Do.	33 15	72 51	1906.4	5 10 W	65 11	.5611	.2355	Explorer	3	Mod.sw.
Do.	33 25	75 21	1906.1	- --	65 27	.5706	.2371	Bache	8	Mod.sw.
Do.	33 30	74 02	1905.4	3 50 W	65 06	.5637	.2374	Explorer	3	Hvy.sw.
Do.	33 34	74 55	1905.2	3 25 W	-- --	----	----	Bache	5	Rough
Do.	34 00	74 35	1904.1	4 23 W	66 08	.5678	.2297	do.	8	Sm.
Do.	35 25	74 43	1907.2	4 27 W	67 43	.5814	.2205	Explorer	3	Mod.sw.
Do.	36 08	75 30	1906.4	4 44 W	67 57	.5794	.2175	Bache	8	Lt.sw.
Do.	36 12	75 28	1905.5	- --	67 45	.5786	.2191	do.	8	Sm.
Hampton Roads	36 58	76 21	1903.5	4 12 W	-- --	----	----	do.	16	Sm.
Do.	37 01	76 14	1903.5	4 07 W	-- --	----	----	Hydrog.	‡16	Sm.
Do.	36 59	76 08	1903.6	4 30 W	-- --	----	----	Blake	16	Sm.
Do.	36 59	76 08	1903.6	4 37 W	-- --	----	----	do.	‡‡8	Sm.
Do.	36 57	76 22	1904.1	4 22 W	68 26	.5856	.2153	Bache	16	Choppy
Do.	36 57	76 22	1904.1	4 36 W	68 38	.5843	.2129	do	16	Choppy

†Unless otherwise designated, the ship was swung with both helms on the same points, the number of points being given by the numeral. When the number of points is less than 8, it means that either the swing was incomplete, for one reason or another, or that observations were made on the course, a point port, a point starboard, and back on course.

‡The ship was not swung for each helm on the same points, though the number of points was the same.

‡‡ The ship was swung with but one helm.

TABLE II.—*Magnetic Observations on the United States Coast and Geodetic Survey vessels, from January 1, 1903, to June 30, 1907*—Continued.

ATLANTIC OCEAN NORTH OF 15° N.—Continued

Station	Latitude N	Longitude W. of Gr.	Date	Observed				Ship	No. of headings†	Sea
				Decl'n	Incl'n	T. Int.	H. Int.			
	° ′	° ′		° ′	° ′	*c. g. s.*	*c. g. s.*			
Hampton Roads	36 57	76 22	1904.2	4 45 W	68 31	.5853	.2144	Blake	16	Sm.
Do.	36 57	76 22	1904.4	4 33 W	68 27	.5852	.2150	Bache	16	Sm.
Do.	36 57	76 22	1904.4	4 33 W	68 38	.5849	.2131	Blake	16	Sm.
Do.	36 57	76 22	1904.6	4 22 W	68 43	.5872	.2131	Bache	16	Sm.
Do.	36 59	76 12	1904.6	4 19 W	69 03	.5890	.2106	Blake	‡‡16	Sm.
Do.	36 58	76 21	1905.1	4 54 W	68 38	.5832	.2125	Bache	16	Sm.
Do.	36 58	76 21	1905.1	4 20 W	-- --	----	----	do.	16	Sm.
Do.	36 59	76 09	1905.2	4 27 W	-- --	----	----	Explorer	16	Choppy
Do.	37 00	76 09	1905.2	4 46 W	68 35	.5908	.2157	do.	16	Sm.
Do.	36 57	76 06	1905.4	4 18 W	68 45	.5831	.2113	do.	16	Lt.sw.
Do.	37 00	76 12	1905.5	5 16 W	68 43	.5837	.2119	do.	16	Choppy
Do.	36 56	76 04	1905.6	4 16 W	68 35	.5867	.2142	do.	16	Sm.
Do.	36 59	76 20	1905.6	4 50 W	-- --	----	----	Bache	5	Lt. sw.
Do.	36 59	76 20	1905.6	4 27 W	68 33	.5794	.2119	do.	16	Sm.
Do.	36 57	76 21	1906.0	4 47 W	68 43	.5988	.2174	do.	16	Sm.
Do.	36 59	76 10	1906.0	4 29 W	68 50	.5887	.2126	Explorer	16	Sm.
Do.	36 57	76 07	1906.4	4 34 W	68 55	.5879	.2115	do.	16	Lt. sw.
Do.	36 58	76 21	1906.4	4 29 W	68 38	.5860	.2135	Bache	16	Sm.
Do.	37 00	76 18	1906.6	4 53 W	68 45	.5865	.2126	Explorer	16	Sm.
Do.	36 58	76 22	1906.6	5 04 W	68 45	.5871	.2128	Bache	16	Sm.
Do.	36 57	76 06	1906.9	4 42 W	68 43	----	----	Explorer	16	Sm.
Do.	36 58	76 21	1907.1	4 02 W	68 39	.5848	.2129	Bache	16	Sm.
Do.	36 58	76 21	1907.1	4 30 W	-- --	----	----	do.	16	Sm.
Do.	36 58	76 21	1907.4	4 35 W	68 39	.5842	.2127	do.	16	Sm.
Chesapeake Bay	37 38	76 09	1905.8	5 18 W	69 22	.5920	.2086	Explorer	16	Sm.
Do.	38 02	76 22	1907.1	5 09 W	69 38	.5930	.2064	do.	8	Sm.
Do.	38 06	76 30	1903.9	5 12 W	-- --	----	----	Hydrog.	16	Sm.
Do.	38 13	76 19	1906.9	5 16 W	69 44	.5995	.2077	Bache	16	Mod. sw.
Do.	38 20	76 23	1903.8	5 14 W	69 22	.5987	.2110	Blake	16	Sm.
Do.	38 20	76 23	1904.8	5 18 W	69 46	.5962	.2062	do.	16	Sm.
Do.	38 22	76 20	1904.2	4 49 W	69 43	.5965	.2068	do.	16	Sm.
Do.	38 30	76 25	1903.1	5 09 W	69 56	.5959	.2045	do.	16	Sm.
At sea	37 43	75 02	1905.6	4 00 W	71 27	.5797	.1843	Explorer	3	Lt. sw.
Do.	37 53	75 05	1904.8	4 55 W	-- --	----	----	Blake	3	Mod. sw.
Do.	38 08	75 00	1905.9	5 58 W	69 52	.5928	.2041	Bache	8	Mod. sw.
Do.	38 15	74 50	1906.9	6 59 W	69 51	.5848	.2014	Explorer	8	Mod. sw.
Do.	38 35	74 41	1906.9	5 32 W	70 23	.5915	.1986	do.	8	Mod. sw.
Delaware Breakwater	38 48	75 07	1903.6	5 59 W	-- --	----	----	Bache	16	Sm.
Do.	38 49	75 07	1903.6	6 02 W	-- --	----	----	do.	16	Hvy. sw.
At sea	38 51	74 28	1904.8	- --	70 08	----	----	Blake	1	
Do.	39 00	74 24	1904.8	4 20 W	-- --	----	----	do.	3	Mod. sw.
Do.	39 11	73 22	1905.6	8 11 W	70 36	.5958	.1979	Explorer	16	Mod. sw.
Do.	39 52	74 00	1906.9	7 58 W	71 20	.6031	.1930	Bache	8	Sm.
Do.	40 08	72 34	1904.6	9 40 W	71 27	.5874	.1900	Blake	16	Mod. sw.
Do.	40 17	73 20	1906.6	9 15 W	71 43	.5975	.1874	Explorer	8	Mod. sw.
Do.	40 28	71 47	1905.6	9 25 W	71 29	.5943	.1887	do.	3	Mod. sw.
Do.	40 26	73 55	1906.9	9 36 W	71 46	.5884	.1841	do.	3	Lt. sw.
Do.	40 32	72 09	1904.8	8 14 W	-- --	----	----	Blake	2	Sm.
New York Hbr.	40 34	74 02	1903.9	8 25 W	-- --	----	----	Bache	16	Sm.
At sea	40 43	71 54	1904.8	- --	71 32	.5957	.1887	Blake	3	Sm.
Do.	41 10	71 12	1904.8	- --	71 35	----	----	do.	1	
Long Island Sd.	41 10	72 43	1906.9	9 08 W	72 36	.5932	.1774	Explorer	8	Sm.
Block Island Sd.	41 14	71 46	1906.9	11 29 W	-- --	----	----	do.	16	Sm.
Vineyard Sd.	41 23	70 52	1904.6	12 09 W	72 19	.5949	.1807	Bache	8	Rough
Gay Head	41 24	70 50	1903.6	12 47 W	-- --	----	----	do.	16	Sm.
Cuttyhunk	41 27	70 54	1903.7	12 08 W	-- --	----	----	Blake	16	Sm.
Nantucket Sd.	41 29	70 33	1906.9	11 46 W	72 16	.5925	.1805	Explorer	16	Sm.
Newport	41 30	71 21	1906.6	12 17 W	72 38	.5971	.1782	do.	16	Sm.
New Bedford	41 31	70 53	1903.6	11 50 W	-- --	----	----	Blake	16	Sm.
Buzzards Bay	41 32	70 52	1903.8	12 34 W	72 19	.6010	.1826	do.	16	Sm.
At sea	41 42	69 30	1905.8	14 05 W	72 48	.5959	.1762	Explorer	16	Mod. sw.
Do.	43 15	68 51	1904.8	15 15 W	73 02	.5952	.1737	Blake	3	Mod. sw.

†Unless otherwise designated, the ship was swung with both helms on the same points, the number of points being given by the numeral. When the number of points is less than 8, it means that either the swing was incomplete, for one reason or another, or that observations were made on the course, a point port, a point starboard, and back on course.

‡‡ The ship was swung with but one helm.

TABLE II.—*Magnetic Observations on the United States Coast and Geodetic Survey vessels, from January 1, 1903, to June 30, 1907*—Continued.

ATLANTIC OCEAN NORTH OF 15° N.—Continued

Station	Latitude N.	Longitude W of Gr.	Date	Observed				Ship	No. of headings†	Sea
				Decl'n	Incl'n	T. Int.	H. Int.			
	° ′	° ′		° ′	° ′	*c. g. s.*	*c. g. s.*			
Portland Hbr.	43 36	70 10	1906.8	15 46 W	74 19	.6032	.1631	Bache	16	Long. sw.
Johns Bay	43 51	69 32	1903.8	15 33 W	-- --	----	----	do.	16	Sm.
At sea	44 05	69 00	1906.8	15 37 W	74 24	.6031	.1626	do.	16	Hvy. sw.
Penobscot Bay	44 06	69 04	1905.6	16 07 W	74 08	.5989	.1637	Explorer	16	Sm.
Do.	44 08	69 02	1905.8	16 31 W	74 24	.6006	.1615	do.	16	Lt. sw.
Rockland Hbr.	44 06	69 05	1906.8	15 59 W	74 32	.6025	.1607	Bache	16	Sm.
Do.	44 07	69 04	1906.6	16 05 W	74 14	.5945	.1615	do.	16	Sm.
Southwest Hbr.	44 16	68 17	1905.8	16 46 W	74 34	.6048	.1610	do.	16	Sm.
Bar Harbor	44 20	68 09	1903.7	17 15 W	-- --	----	----	do.	16	Sm.
Frenchmans Bay	44 27	68 11	1904.6	16 16 W	74 30	.5985	.1599	Blake	16	Sm.
Do.	44 28	68 13	1904.6	16 16 W	74 32	.5982	.1595	Bache	16	Sm.
Do.	44 27	68 13	1904.7	16 44 W	-- --	----	----	Blake	16	Sm.
Do.	44 22	68 10	1904.8	16 57 W	74 17	----	----	Bache	16	Choppy
Do.	44 24	68 10	1904.8	16 38 W	74 42	.5998	.1583	Blake	16	Sm.
Do.	44 25	68 12	1905.7	16 46 W	74 34	.5948	.1583	Bache	16	Sm.

GULF OF MEXICO AND CARIBBEAN SEA

	° ′	° ′		° ′	° ′	*c. g. s.*	*c. g. s.*			
Limon Bay	9 22	79 56	1905.3	4 40 E	-- --	----	----	Bache	16	Hvy. sw.
Kingston	17 58	76 47	1905.2	1 58 E	47 37	.4634	.3124	do.	16	Sm.
Do.	17 58	76 47	1905.3	1 52 E	47 22	.4626	.3133	do.	16	Sm.
At sea	20 42	83 14	1905.4	3 54 E	49 48	.4849	.3130	do.	8	Sm.
Do.	22 47	84 40	1905.4	3 40 E	52 38	.5007	.3039	do.	8	Sm.
Key West	24 32	81 49	1903.4	2 39 E	-- --	----	----	do.	16	Sm.
Do.	24 30	81 51	1903.4	2 48 E	-- --	----	----	Hydrog.	‡16	
Do.	24 32	81 50	1904.2	2 48 E	-- --	----	----	do.	16	Sm.
Do.	24 31	81 49	1905.4	2 30 E	54 52	.5119	.2946	Bache	16	Sm.
Do.	24 31	81 49	1905.4	2 10 E	55 00	.5149	.2954	do.	16	Sm.
Do.	24 31	81 50	1906.1	2 30 E	55 15	.5150	.2936	do.	16	Sm.
Do.	24 32	81 50	1906.3	2 31 E	54 52	.5109	.2940	do.	16	Sm.
Do.	24 33	81 50	1906.3	2 35 E	54 59	.5113	.2934	do.	8	Sm.
At sea	24 32	82 58	1906.3	2 36 E	54 19	.5126	.2990	do.	8	Sm.
Do.	24 43	83 27	1906.3	3 38 E	55 11	.5142	.2936	do.	8	Mod. sw.
Do.	24 44	85 20	1906.3	4 10 E	54 36	.5118	.2965	do.	8	Hvy. sw.
Do.	25 16	84 43	1906.3	3 34 E	55 38	.5192	.2931	do.	8	Lt. sw.
Do.	26 18	88 52	1906.3	5 00 E	56 02	.5231	.2923	do.	8	Mod. sw.
Do.	26 24	86 52	1906.3	4 41 E	56 35	.5262	.2898	do.	8	Lt. sw.
Do.	26 43	90 16	1906.3	5 32 E	56 30	.5254	.2900	do.	8	Mod. sw.
Do.	26 54	88 12	1906.3	4 49 E	56 52	.5289	.2891	do.	8	Sm.
Do.	27 28	92 48	1906.3	- --	56 50	.5272	.2884	do.	8	Lt. sw.
Do.	27 29	90 15	1906.3	5 42 E	57 27	.5346	.2876	do.	8	Lt. sw.
Do.	27 42	93 41	1906.3	7 02 E	56 46	.5327	.2919	do.	8	Lt. sw.
Do.	27 56	91 22	1906.3	6 12 E	57 53	.5347	.2843	do.	8	Hvy. sw.
Do.	28 47	93 25	1906.3	6 43 E	58 20	.5402	.2836	do.	8	Hvy. sw.
Galveston	29 20	94 40	1906.3	7 22 E	58 45	.5438	.2821	do.	16	Sm.
Do.	29 21	94 45	1906.3	7 33 E	58 47	.5416	.2807	do.	16	Lt. sw.

PACIFIC OCEAN NORTH OF 15° N.

	° ′	° ′		° ′	° ′	*c. g. s.*	*c. g. s.*			
At sea	15 35	97 42	1905.7	8 01 E	39 29	.4353	.3360	Explorer	8	Sm.
Do.	16 11	99 22	1907.5	7 49 E	-- --	----	----	do.	3	Lt. sw.
Do.	16 51	99 55	1907.5	8 22 E	41 10	.4457	.3355	do.	16	Sm.
Do.	16 56	100 21	1907.5	8 45 E	-- --	----	----	do.	3	Mod. sw.
Do.	17 36	102 24	1907.5	8 44 E	-- --	----	----	do.	3	Mod. sw.
Do.	17 39	102 30	1907.5	- --	41 14	.4425	.3328	do.	3	Mod. sw.
Do.	18 13	103 49	1907.5	9 28 E	-- --	----	----	do.	3	Mod. sw

†Unless otherwise designated, the ship was swung with both helms on the same points, the number of points being given by the numeral. When the number of points is less than 8, it means that either the swing was incomplete, for one reason or another, or that observations were made on the course, a point port, a point starboard, and back on course.

‡ The ship was not swung for each helm on the same points, though the number of points was the same.

TABLE II.—*Magnetic Observations on the United States Coast and Geodetic Survey vessels, from January 1, 1903, to June 30, 1907*—Continued.

PACIFIC OCEAN NORTH OF 15° N.—Continued

Station	Latitude N.	Longitude W. of Gr.	Date	Observed				Ship	No. of headings†	Sea
				Decl'n	Incl'n	T Int.	H. Int.			
	° ′	° ′		° ′	° ′	*c. g. s.*	*c. g. s.*			
At sea	19 24	105 39	1907.5	9 11 E	43 45	.4538	.3278	Explorer	8	Mod. sw.
Do.	20 10	106 40	1907.5	9 42 E	-- --	----	----	do.	3	Lt. sw.
Do.	21 11	108 01	1907.5	- --	45 53	.4640	.3230	do.	3	Lt. sw.
Near Oahu I.	21 16	158 00	1904.8	10 03 E	39 48	.3890	.2989	Patterson	‡8	Sm.
At sea	22 16	109 26	1907.5	10 53 E	-- --	----	----	Explorer	3	Lt. sw.
Do.	22 58	156 18	1905.2	10 51 E	42 18	.3965	.2933	Patterson	‡16	Mod. sw.
Do.	24 25	112 01	1907.5	10 32 E	-- --	----	----	do.	3	Sm.
Do.	24 38	112 07	1907.5	11 32 E	49 03	.4792	.3141	Explorer	16	Sm.
Do.	24 46	112 20	1907.5	11 07 E	-- --	----	----	do.	3	Lt. sw.
Do.	29 05	158 50	1904.8	11 50 E	47 23	.4168	.2822	Patterson	‡16	Long sw.
San Francisco	37 48	122 22	1904.4	17 25 E	62 13	.5431	.2532	do.	16	Sm.
Do.	37 45	122 21	1904.4	17 12 E	-- --	----	----	McArthur	16	Sm.
Do.	37 45	122 21	1904.3	17 50 E	-- --	----	----	Gedney	16	Sm.
At sea	45 49	130 55	1904.3	22 29 E	67 28	.5637	.2160	Patterson	16	Mod.sw.
Do.	46 10	130 05	1904.3	23 32 E††	67 37	.5628	.2143	do.	16	Mod.sw.
Port Orchard	47 33	122 38	1906.4	-- --	71 30	.5916	.1877	do.	16	Sm.
Do.	47 33	122 38	1906.4	23 08 E	71 03	.5905	.1918	do.	16	Sm.
Seattle	47 36	122 21	1904.8	23 26 E	-- --	----	----	McArthur	16	Sm.
Do.	47 37	122 24	1906.0	23 00 E	70 54	.5910	.1933	Patterson	16	Sm.
Do.	47 37	122 23	1906.9	23 28 E	70 41	.5914	.1956	do.	16	Sm.
Puget Sound	47 53	122 29	1905.4	24 12 E	-- --	----	----	Gedney	16	Sm.
Port Angeles	48 08	123 25	1904.3	24 33 E	71 00	.5959	.1940	Patterson	‡‡16	Sm.
Port Townsend	48 06	122 45	1907.4	24 17 E	71 12	.5916	.1907	do.	16	Sm.
Juan de Fuca Strait	48 15	122 56	1904.8	22 14 E?	-- --	----	----	Gedney	16	Sm.
Do.	48 18	122 58	1905.4	23 11 E	-- --	----	----	Patterson	16	Sm.
Victoria	48 22	123 24	1905.4	23 53 E	71 15	.5930	.1906	do.	16	Sm.
Do.	48 24	123 25	1903.5	23 23 E	-- --	----	----	do.	32	Sm.
Gulf of Georgia	48 52	122 58	1907.4	24 52 E	71 35	.5940	.1877	do.	16	Sm.
Do.	49 30	124 31	1907.4	24 45 E	71 36	.5901	.1863	do.	16	Sm.
Near Union	49 35	124 53	1906.5	25 48 E	71 29	.5935	.1885	do.	16	Sm.
Hecate Strait	51 03	128 32	1907.4	25 34 E	72 00	.5895	.1822	do.	16	Mod.sw.
At sea	51 58	131 47	1907.4	27 01 E	71 19	.5773	.1849	do.	8	Rough
Kiska Harbor	51 59	182 28	1904.7	9 26 E	-- --	----	----	McArthur	16	Sm.
At sea	52 04	132 15	1906.5	26 18 E	71 29	.5810	.1845	Patterson	8	Mod.sw.
Dutch Harbor	53 53	166 32	1904.5	16 26 E	-- --	----	----	McArthur	16	Sm.
Do.	53 54	166 31	1904.7	16 46 E	66 40	.5236	.2074	Patterson	16	Sm.
Clarence Strait	55 06	131 50	1905.4	28 31 E	-- --	----	----	Gedney	16	Sm.
At sea	55 14	140 22	1907.4	-- --	72 38	.5709	.1704	Patterson	8	
Do.	55 15	146 50	1906.5	24 10 E	70 49	.5620	.1847	do.	16	Lt.sw.
Do.	55 43	151 31	1906.5	22 38 E	70 23	.5550	.1863	do.	16	Lt.sw.
Davidson Inlet	55 52	133 38	1904.6	29 19 E	-- --	----	----	Gedney	16	Sm.
At sea	55 59	155 41	1906.5	21 53 E	69 53	.5498	.1891	Patterson	16	Lt.sw.
Do.	56 23	145 59	1907.4	-- --	72 14	.5677	.1732	do.	8	Rough
Sitka	57 02	135 19	1903.6	30 02 E	-- --	----	----	do.	32	Sm.
Kodiak Harbor	57 46	152 26	1907.4	24 12 E	72 04	.5637	.1736	do.	16	Sm.
Gastineau Channel	58 14	134 18	1903.8	25 54 E	-- --	----	----	Gedney	1	Sm.
Seward	60 05	149 15	1905.8	27 02 E	-- --	----	----	Patterson	16	Sm.
Do.	60 05	149 15	1905.8	27 34 E	73 58	.5719	.1580	do.	16	Sm.
Do.	60 08	149 13	1905.4	26 45 E	74 12	.5700	.1552	do.	16	Sm.

†Unless otherwise designated, the ship was swung with both helms on the same points, the number of points being given by the numeral. When the number of points is less than 8, it means that either the swing was incomplete, for one reason or another, or that observations were made on the course, a point port, a point starboard, and back on course.

†† Compass observations made only while swinging with port helm.

‡ Dip and intensity from observations on 3, 6, and 4 points, respectively.

‡‡ Ship swung on 16 points one way and on 32 points the other way.

TABLE III.

SECULAR CHANGE OF THE MAGNETIC DECLINATION IN THE UNITED STATES 1750-1905.

53819—08——7

SECULAR CHANGE OF THE MAGNETIC DECLINATION.

Introductory remarks.

The material in the United States for constructing secular change tables of the three magnetic elements has now reached such proportions that it would not be feasible to establish for each station a formula (linear, quadratic, or sine) by the method of least squares. In fact, recent experience has shown that the phenomena of the secular changes in the United States are far more complicated than hitherto supposed. This became specially evident because of the more frequent reoccupations of magnetic stations since 1899. Not only was the interval between occupations reduced to five years or less, but also the number of the "repeat" stations was greatly increased. Consideration showed that in the absence of our knowledge of the actual law or formula according to which the secular variation progresses, it would be more satisfactory and certainly more expeditious to employ graphical processes.

For each State the observations were collected for all stations at which observations had been repeated since the year 1840, and in a few cases since 1835. For nearly half the States it was possible to make such collections for the three magnetic elements; in the remainder, while the declination results went back to 1850 or 1840 or even earlier, dip and intensity results were frequently not available much before 1880 or 1870. After the results for the various stations had been collected, they were plotted for each station and for each element on convenient cross-section paper and on such a scale that stations within a certain radius of each other would fall near together on the diagram. This arrangement proved convenient, for it readily enabled the detection of any peculiar feature which an ordinary smoothing-out process would have eliminated, but which could now be retained. In a similar way gross errors of observation or discrepancies due to non-exact reoccupation of the former point of observation could be detected. Sometimes, however, owing to the fact that the same instruments, which apparently were subject to some error due either to magnetic impurities in the material of construction or due to imperfect determination of constants, were used over a large area, it was not so easy to detect the imperfections by mere comparison. Whenever there was occasion to suspect any errors due to this source, the observations were not utilized. This applies especially to determinations made by organizations for which it was impossible to get at the history of the instruments or methods used.

When the "repeat" observations had been plotted for each station, curves were drawn through them to conform as strictly with the results as possible, and then the values of magnetic elements (declination, inclination, and horizontal intensity) were scaled off for intervals of five years for the period covered. Next, differences or corrections to reduce an observation to 1905.0 were obtained for each fifth year. Then a group was formed embodying the mean result of these corrections for three or more (sometimes six) stations within a radius of 50 to 100 miles. For the entire region covered by the magnetic charts there were, on the average, about 65 of these groups spaced more or less uniformly for each magnetic element. These "group secular change tables" were next plotted on a convenient scale so as to permit obtaining graphically the secular change reduction to 1905.0 of an observed magnetic element obtained at any time covered by the "group" curves; a check was obtained by another computer using the "group" tables direct.

This process was found satisfactory. Over the greater part of the region the reduced values observed at various times at the same station, even when going back twenty-five, thirty, and at times forty years, differed from each other by quantities less than the average "station error." When, however, the "repeat" observations were not made at the same point, or when made by different organizations or observers and referred to 1905.0, the accord was not always so satisfactory. In these cases both results have been given in Table I, as already stated.

For no land area of similar size are we in possession of an equally exhaustive discussion of the perplexing secular changes. These changes are far more complex and far more dependent upon local

or regional conditions than was hitherto believed to be the case. While it may be possible to establish some general laws governing the secular changes over the entire United States, these laws appear to be much too intricate to be specialized so as to fit observations in any one locality within the error of observations with good field instruments. It would hardly seem advisable to lay so much stress upon the accuracy of the determinations of the magnetic elements at any one time unless equal care is bestowed upon the corrections necessary to reduce the observed values to the common epoch. The five magnetic observatories of the Coast and Geodetic Survey are too far apart for the satisfactory determination of secular changes over the entire region, so that the need of frequent and of many "repeat" stations is immediately apparent. Furthermore, such work must be kept up continuously, as is the case in this country, and not be done intermittently.

Explanatory remarks.

Table III,[a] on the following pages, contains for each State and Territory one or more columns, arranged alphabetically, showing the change in the magnetic declination from 1750 or the date of the earliest available observations to the present time. The figures on any line refer to the 1st of January of the year given in the first column. While each column is based on the average value of declination observed at the place given in parenthesis, it serves to represent equally well the *change* in direction of the compass needle in other parts of the general region to which the column refers. This table gives approximately the actual change in the magnetic declination, and of course does not take into account the error of any particular compass.

Whenever the surveyor is called upon to redetermine the boundary line of a tract of land run out at some previous period with a compass, and can find in the vicinity a well-defined line known to have been established with the same compass and at about the same time as the survey of the tract under consideration, he can not do better than determine the amount of the change in the compass bearing of this well-defined line and use it to obtain the present bearings of the boundary lines to be reestablished. In this way he will also take into account the error of the compasses used. Only in the absence of such definite information is the use of Table III recommended for the practical purposes of land surveying. For convenience in entering the table, the following auxiliary table is added:

Months and days expressed as a fraction of a year.

Jan. 0 ..... 0.00	Apr. 1 ..... 0.25	July 2 ..... 0.50	Oct. 1 ..... 0.75
Jan. 18 ..... 0.05	Apr. 20 ..... 0.30	July 20 ..... 0.55	Oct. 19 ..... 0.80
Feb. 6 ..... 0.10	May 8 ..... 0.35	Aug. 7 ..... 0.60	Nov. 7 ..... 0.85
Feb. 24 ..... 0.15	May 26 ..... 0.40	Aug. 25 ..... 0.65	Nov. 25 ..... 0.90
Mar. 14 ..... 0.20	June 13 ..... 0.45	Sept. 13 ..... 0.70	Dec. 13 ..... 0.95

The use of the tables can best be explained by a few examples:

(1) What was the change in declination at Augusta, Ga., between June 1, 1825, and September 1, 1906?

In the table for Georgia the values for 1820 and 1830 are 5° 53′ E. and 5° 44′ E., showing an average annual decrease of 0′.9; hence the value for 1825, June 1, would be $5° 53′ - (0.9 \times 5.4) = 5° 48′$ E. Similarly, the table gives for 1905 the value 2° 02′ E., with an annual decrease of 0′.8; hence the value for 1906, September 1, would be $2° 02′ - (0.8 \times 1.7) = 2° 01′$ E. Therefore the north end of the needle pointed 3° 47′ more to the west September 1, 1906, than it did June 1, 1825.

(2) The magnetic declination at Allegheny, Pa., was 2° 56′ W. in August, 1885. What was it in January, 1800?

From the table for western Pennsylvania are derived the values 0° 37′ W. for January, 1800, and 4° 12′ W. for August, 1885, showing a change of 3° 35′ in the interval; hence the declination at Allegheny for the earlier date was 2° 56′ W. − 3° 35′, or 0° 39′ E.

[a] With but slight revisions it is the same as published in App. 4, Report of the Coast and Geodetic Survey for 1906, pp. 218–226.

(3) A rectangular piece of land at Santa Barbara, Cal., was surveyed by compass in May, 1832, and the bearings recorded as follows: N. 20° 15′ W., N, 75° 30′ E., S. 18° 45′ E., and S. 78° 00′ W. What bearings should be used in order to retrace the lines in September, 1906?

From the table for southern California the values 13° 16′ E. for 1832 and 15° 16′ E. for 1906 show a change of 2° to the eastward in the interval. The desired bearings are, therefore, N. 22° 15′ W., N. 73° 30′ E., S. 20° 45′ E., and S. 76° 00′ W.

TABLE III.—*Secular Change of the Magnetic Declination in the United States.*

Year (Jan. 1)	Alabama (Montgomery) 32°.4 N; 86°.3 W	Arizona, east (Holbrook) 34° 9 N, 110°.2 W	Arizona, west (Prescott) 34°.6 N; 112°.5 W	Arkansas (Little Rock) 34°.7 N; 92°.3 W	California, south (Los Angeles) 34°.1 N; 118°.2 W	California, middle (San Jose) 37°.3 N; 121°.9 W
	° ′	° ′	° ′	° ′	° ′	° ′
1750	2 52 E					
1760	3 28					
1770	4 03					
1780	4 34				10 24 E	13 37 E
1790	5 02				10 58	14 03
1800	5 24			8 13 E	11 32	14 32
1810	5 39			8 36	12 07	15 01
1820	5 47			8 51	12 39	15 30
1830	5 46			9 00	13 09	15 57
1840	5 38			8 59	13 36	16 22
1850	5 22	13 33 E	13 19 E	8 51	13 57	16 45
1860	5 00	13 44	13 33	8 34	14 13	17 05
1870	4 32	13 47	13 40	8 14	14 24	17 20
1880	3 54	13 40	13 36	7 38	14 33	17 28
1890	3 15	13 25	13 32	7 01	14 36	17 32
1900	2 49	13 29	13 44	6 38	14 52	17 51
1905	2 48 E	13 41 E	14 00 E	6 44 E	15 10 E	18 10 E
Annual change in 1905	1′.0 incr.	3′.0 incr.	3′.2 incr.	2′.0 incr.	3′.6 incr.	3′.8 incr.

Year (Jan. 1)	California, north (Redding) 40°.6 N; 122°.4 W	Colorado, east (Pueblo) 38°.2 N; 104°.6 W	Colorado, west (Glenwood Springs) 39°.5 N; 107°.3 W	Connecticut (Hartford) 41°.7 N; 72°.7 W	Delaware (Dover) 39°.2 N; 75°.5 W	District of Columbia (Washington) 38°.9 N; 77°.0 W
	° ′	° ′	° ′	° ′	° ′	° ′
1750				5 47 W	3 23 W	1 41 W
1760				5 18	2 46	1 02
1770				4 57	2 16	0 28
1780	14 07 E			4 45	1 52	0 01 W
1790	14 35			4 43	1 37	0 19 E
1800	15 04			4 51	1 33	0 28
1810	15 34			5 08	1 37	0 28
1820	16 04			5 34	1 52	0 19 E
1830	16 33			6 07	2 16	0 01 W
1840	17 01			6 47	2 46	0 28
1850	17 26	13 47 E	16 07 E	7 31	3 23	1 02
1860	17 47	13 50	16 15	8 09	4 03	1 41
1870	18 06	13 46	16 16	8 43	4 41	2 21
1880	18 15	13 31	16 04	9 24	5 20	3 00
1890	18 20	13 00	15 40	9 51	5 54	3 36
1900	18 39	12 53	15 39	10 25	6 26	4 11
1905	18 58 E	13 04 E	15 52 E	10 41 W	6 42 W	4 27 W
Annual change in 1905	3′.8 incr.	2′.5 incr.	2′.8 incr.	3′.2 incr.	3′.2 incr.	3′.2 incr.

TABLE III.—*Secular Change of the Magnetic Declination in the United States*—Continued.

Year (Jan. 1)	Florida, east (Jacksonville) 30°.3 N; 81°.6 W	Florida, west (Pensacola) 30°.4 N; 87°.2 W	Florida, south (Tampa) 28°.0 N; 82°.5 W	Georgia (Macon) 32°.8 N; 83°.6 W	Idaho, east (Pocatello) 42°.9 N; 112°.4 W	Idaho, west (Boise) 43°.6 N; 116°.2 W
	° ′	° ′	° ′	° ′	° ′	° ′
1750	2 27 E	5 00 E	5 00 E	3 16 E		
1760	3 04	5 37	5 30	3 53		
1770	3 40	6 13	5 55	4 29		
1780	4 12	6 44	6 15	5 01		
1790	4 37	7 11	6 26	5 26		
1800	4 55	7 32	6 30	5 44		
1810	5 04	7 45	6 26	5 53		
1820	5 04	7 50	6 15	5 53		
1830	4 55	7 45	5 55	5 44		
1840	4 37	7 31	5 30	5 26		
1850	4 12	7 12	5 00	5 01	17 21 E	17 59 E
1860	3 40	6 45	4 28	4 29	17 40	18 21
1870	3 04	6 13	3 53	3 53	17 51	18 36
1880	2 25	5 34	3 16	3 14	17 54	18 43
1890	1 50	4 57	2 48	2 39	17 43	18 39
1900	1 19	4 29	2 19	2 08	17 51	18 51
1905	1 13 E	4 25 E	2 11 E	2 02 E	18 07 E	19 08 E
Annual change in 1905	0′.8 decr.	0′.0	1′.6 decr.	0′.8 decr.	3′.2 incr.	3′.4 incr.

Year (Jan. 1)	Illinois (Bloomington) 40°.5 N, 89°.0 W	Indiana (Indianapolis) 39°.8 N; 86°.2 W	Iowa (Des Moines) 41°.6 N; 93°.6 W	Kansas, east (Emporia) 38°.4 N; 93°.2 W	Kansas, west (Ness City) 38°.5 N; 99°.9 W	Kentucky, east (Lexington) 38°.1 N; 84°.5 W
	° ′	° ′	° ′	° ′	° ′	° ′
1750						
1760						
1770						
1780						
1790						
1800	5 54 E	4 44 E				4 22 E
1810	6 18	4 59				4 31
1820	6 33	5 04	10 09 E			4 31
1830	6 37	4 59	10 24			4 22
1840	6 33	4 44	10 30			4 04
1850	6 18	4 21	10 24	11 34 E	12 24 E	3 39
1860	5 54	3 50	10 09	11 28	12 23	3 07
1870	5 26	3 13	9 44	11 12	12 12	2 31
1880	4 44	2 35	9 06	10 45	11 54	1 53
1890	4 05	1 57	8 21	10 07	11 21	1 15
1900	3 36	1 24	7 54	9 50	11 08	0 41
1905	3 31 E	1 15 E	7 57 E	9 59 E	11 16 E	0 32 E
Annual change in 1905	1′.0 decr.	1′.5 decr.	1′.5 incr.	2′.0 incr.	2′.0 incr.	1′.0 decr.

TABLE III.—*Secular Change of the Magnetic Declination in the United States*—Continued.

Year (Jan. 1)	Kentucky, west (Princeton) 37°.1 N; 87°.9 W	Louisiana (Alexandria) 31°.3 N; 92°.4 W	Maine, northeast (Eastport) 44°.9 N; 67°.0 W	Maine, southwest (Portland) 43°.6 N; 70°.3 W	Maryland (Baltimore) 39°.3 N; 76°.6 W	Massachusetts, east (Boston) 42°.3 N; 71°.0 W
	° ′	° ′	° ′	° ′	° ′	° ′
1750			12 05 W	8 34 W	3 05 W	7 46 W
1760			11 53	8 15	2 26	7 19
1770			11 53	8 10	1 52	7 00
1780			12 05	8 10	1 25	6 50
1790			12 26	8 15	1 05	6 50
1800	6 32 E	8 04 E	12 58	8 34	0 56	7 01
1810	6 50	8 25	13 38	9 02	0 56	7 20
1820	6 59	8 41	14 23	9 38	1 05	7 47
1830	6 59	8 49	15 12	10 18	1 25	8 22
1840	6 50	8 48	16 02	10 57	1 52	9 04
1850	6 32	8 40	16 58	11 38	2 26	9 48
1860	6 07	8 24	17 43	12 18	3 05	10 28
1870	5 37	8 02	18 13	12 48	3 45	11 01
1880	4 57	7 26	18 34	13 22	4 24	11 32
1890	4 20	6 53	18 44	13 51	5 00	12 02
1900	3 51	6 33	19 02	14 21	5 35	12 34
1905	3 44 E	6 40 E	19 14 W	14 36 W	5 51 W	12 51 W
Annual change in 1905	0′.0	2′.0 incr.	2′.4 incr.	3′.0 incr.	3′.2 incr.	3′.4 incr.

Year (Jan. 1)	Massachusetts, west (Pittsfield) 42°.4 N; 73°.3 W	Michigan, north (Marquette) 46°.5 N; 87°.4 W	Michigan, south (Lansing) 42°.7 N; 84°.5 W	Minnesota, north (Northome) 47°.9 N; 94°.3 W	Minnesota, south (Mankato) 44°.2 N; 94°.0 W	Mississippi (Jackson) 32°.3 N; 90°.2 W
	° ′	° ′	° ′	° ′	° ′	° ′
1750	6 21 W					
1760	5 52					
1770	5 31					
1780	5 19					
1790	5 17					
1800	5 25					7 54 E
1810	5 42					8 13
1820	6 08	6 42 E	4 10 E	10 27 E	11 20 E	8 24
1830	6 41	6 42	4 04	10 44	11 36	8 28
1840	7 21	6 28	3 46	10 50	11 42	8 24
1850	8 05	6 02	3 20	10 44	11 36	8 13
1860	8 43	5 25	2 46	10 27	11 20	7 57
1870	9 17	4 38	2 04	9 59	10 54	7 31
1880	9 58	3 47	1 17	9 17	10 22	6 55
1890	10 25	2 58	0 32 E	8 33	9 32	6 21
1900	10 59	2 20	0 02 W	7 58	9 01	5 58
1905	11 15 W	2 08 E	0 14 W	7 58 E	9 02 E	6 02 E
Annual change in 1905	3′.2 incr.	1′.5 decr.	2′.0 incr.	1′.0 incr.	1′.0 incr.	1′.5 incr.

TABLE III.—*Secular Change of the Magnetic Declination in the United States*—Continued.

Year (Jan. 1)	Missouri (Sedalia) 38°.7 N; 93°.2 W	Montana, east (Forsyth) 46°.2 N; 106°.6 W	Montana, west (Helena) 46°.6 N; 112°.0 W	Nebraska, east (Hastings) 40°.6 N; 98°.4 W	Nebraska, west (Alliance) 42°.1 N; 102°.8 W	Nevada, east (Elko) 40°.8 N; 115°.8 W
	° ′	° ′	° ′	° ′	° ′	° ′
1750						
1760						
1770						
1780						
1790						
1800						
1810						
1820	10 03 E			11 39 E		
1830	10 13			11 57		
1840	10 13	18 09 E	18 53 E	12 07		
1850	10 04	18 27	19 18	12 07	15 27 E	17 20 E
1860	9 46	18 36	19 36	11 59	15 27	17 36
1870	9 24	18 36	19 45	11 41	15 18	17 41
1880	8 44	18 21	19 34	11 10	14 50	17 44
1890	8 02	17 53	19 23	10 31	14 20	17 38
1900	7 38	17 50	19 31	10 14	14 10	17 49
1905	7 43 E	18 04 E	19 47 E	10 22 E	14 18 E	18 04 E
Annual change in 1905	2′.0 incr.	2′.8 incr.	3′.2 incr.	2′.0 incr.	2′.5 incr.	3′.0 incr.

Year (Jan. 1)	Nevada, west (Hawthorne) 38°.5 N; 118°.6 W	New Hampshire (Hanover) 43°.7 N; 72°.3 W	New Jersey (Trenton) 40°.2 N; 74°.8 W	New Mexico, east (Santa Rosa) 34°.9 N; 104°.7 W	New Mexico, west (Laguna) 35°.1 N; 107°.4 W	New York, east (Albany) 42°.7 N; 73°.8 W
	° ′	° ′	° ′	° ′	° ′	° ′
1750		8 02 W	4 43 W			7 35 W
1760		7 28	4 04			6 53
1770		7 03	3 31			6 17
1780		6 47	3 06			5 50
1790		6 42	2 50			5 34
1800		6 49	2 45			5 28
1810		7 06	2 50			5 34
1820		7 32	3 06			5 50
1830		8 11	3 31			6 17
1840		8 56	4 04			6 53
1850	16 16 E	9 46	4 43	12 43 E	13 26 E	7 39
1860	16 37	10 31	5 22	12 47	13 33	8 25
1870	16 52	11 08	6 01	12 43	13 34	9 04
1880	17 00	11 38	6 41	12 29	13 22	9 51
1890	17 02	12 03	7 14	12 03	13 02	10 14
1900	17 17	12 31	7 49	11 59	13 02	10 48
1905	17 33 E	12 46 W	8 06 W	12 11 E	13 14 E	11 06 W
Annual change in 1905	3′.2 incr.	3′.0 incr.	3′.2 incr.	2′.8 incr.	2′.8 incr.	3′.5 incr.

TABLE III.—*Secular Change of the Magnetic Declination in the United States*—Continued.

Year (Jan. 1)	New York, west (Elmira) 42°.1 N; 76°.8 W	North Carolina, east (Newbern) 35°.1 N; 77°.0 W	North Carolina, west (Salisbury) 35°.7 N; 80°.5 W	North Dakota, east (Jamestown) 46°.9 N; 98°.7 W	North Dakota, west (Dickinson) 46°.9 N; 102°.7 W	Ohio (Columbus) 40°.0 N; 83°.0 W
	° ′	° ′	° ′	° ′	° ′	° ′
1750	4 40 W	0 18 W	1 31 E			
1760	3 57	0 18 E	2 08			
1770	3 18	0 50	2 42			
1780	2 46	1 17	3 12			
1790	2 24	1 35	3 34			
1800	2 13	1 44	3 48			3 13 E
1810	2 13	1 44	3 52			3 22
1820	2 24	1 35	3 48			3 22
1830	2 46	1 16	3 33			3 13
1840	3 18	0 50	3 10			2 53
1850	3 57	0 17 E	2 40	14 31 E	17 37 E	2 24
1860	4 46	0 19 W	2 06	14 21	17 37	1 50
1870	5 23	0 58	1 29	14 02	17 27	1 14
1880	6 16	1 35	0 51	13 31	17 00	0 37 E
1890	6 57	2 14	0 13 E	12 43	16 21	0 02 W
1900	7 37	2 51	0 23 W	12 24	16 10	0 42
1905	7 51 W	3 06 W	0 33 W	12 35 E	16 23 E	0 54 W
Annual change in 1905	2′.5 incr.	3′.0 incr.	2′.0 incr.	2′.2 incr.	2′.6 incr.	2′.0 incr.

Year (Jan. 1)	Oklahoma (Okmulgee) 35°.6 N; 95°.6 W	Oklahoma (Enid) 36°.4 N; 97°.9 W	Oregon east, (Sumpter) 44°.7 N; 118°.2 W	Oregon, west (Detroit) 44°.7 N; 122°.1 W	Pennsylvania, east (Philadelphia) 40°.0 N; 75°.2 W	Pennsylvania, west (Altoona) 40°.5 N; 78°.4 W
	° ′	° ′	° ′	° ′	° ′	° ′
1750					4 47 W	
1760					4 01	
1770					3 19	
1780					2 44	1 16 W
1790					2 21	0 52
1800				16 05 E	2 08	0 37
1810				16 43	2 09	0 31
1820				17 22	2 22	0 37
1830				18 01	2 47	0 52
1840				18 38	3 21	1 16
1850	10 15 E	11 13 E	19 15 E	19 12	4 04	1 48
1860	10 06	11 08	19 40	19 41	4 46	2 26
1870	9 51	10 56	19 58	20 06	5 32	3 06
1880	9 24	10 33	20 09	20 24	6 16	3 50
1890	8 45	9 54	20 11	20 32	6 50	4 28
1900	8 31	9 40	20 26	20 50	7 25	5 07
1905	8 43 E	9 52 E	20 44 E	21 09 E	7 42 W	5 21 W
Annual change in 1905	2′.4 incr.	2′.4 incr.	3′.6 incr.	3′.8 incr.	3′.4 incr.	2′.5 incr.

TABLE III.—*Secular Change of the Magnetic Declination in the United States*—Continued.

Year (Jan. 1)	Rhode Island (Newport) 41°.5 N; 71°.3 W	South Carolina (Columbia) 33°.9 N; 81°.0 W	South Dakota, east (Huron) 44°.4 N; 98°.2 W	South Dakota, west (Rapid City) 44°.1 N; 103°.2 W	Tennessee, east (Chattanooga) 35°.0 N; 85°.3 W	Tennessee west (Huntingdon) 36°.0 N; 88°.4 W
	° ′	° ′	° ′	° ′	° ′	° ′
1750	7 04 W	2 04 E				
1760	6 37	2 41				
1770	6 18	3 15				
1780	6 08	3 44				
1790	6 08	4 06				
1800	6 19	4 19			5 07 E	
1810	6 38	4 24			5 16	
1820	7 05	4 19			5 16	7 24 E
1830	7 40	4 06			5 07	7 24
1840	8 22	3 44	13 06 E		4 49	7 16
1850	9 06	3 15	13 06	16 26 E	4 24	6 59
1860	9 46	2 41	12 57	16 26	3 52	6 35
1870	10 19	2 03	12 39	16 16	3 16	6 05
1880	10 50	1 25	12 07	15 50	2 36	5 29
1890	11 20	0 47	11 25	15 17	2 01	4 53
1900	11 52	0 11	11 07	15 07	1 30	4 24
1905	12 09 W	0 02 E	11 16 E	15 15 E	1 22 E	4 20 E
Annual change in 1905	3′.4 incr.	1′.0 decr.	2′.0 incr.	2′.0 incr.	1′.0 decr.	0′.0

Year (Jan. 1)	Texas, east (Houston) 29°.8 N; 95°.3 W	Texas, middle (San Antonio) 29°.5 N; 98°.5 W	Texas, west (Pecos) 31°.4 N; 103°.6 W	Texas, northwest (Floydada) 34°.0 N; 101°.3 W	Utah (Salt Lake) 40°.8 N. 111°.9 W	Vermont (Rutland) 43°.6 N. 73°.0 W
	° ′	° ′	° ′	° ′	° ′	° ′
1750						7 43 W
1760						7 09
1770						6 44
1780						6 28
1790						6 23
1800						6 30
1810						6 47
1820	8 55 E					7 13
1830	9 10	9 37 E	10 46 E			7 48
1840	9 19	9 48	11 00			8 29
1850	9 19	9 53	11 08	11 16 E	16 25 E	9 13
1860	9 12	9 48	11 07	11 18	16 36	9 59
1870	8 56	9 37	11 00	11 11	16 40	10 39
1880	8 29	9 19	10 48	10 56	16 30	11 14
1890	7 56	8 52	10 24	10 25	16 20	11 39
1900	7 44	8 43	10 18	10 16	16 28	12 08
1905	7 53 E	8 55 E	10 30 E	10 28 E	16 42 E	12 26 W
Annual change in 1905	2′.0 incr.	2′.5 incr.	2′.8 incr.	2′.5 incr.	3′.0 incr.	3′.5 incr.

TABLE III.—*Secular Change of the Magnetic Declination in the United States*—Continued.

Year (Jan. 1)	Virginia, east (Richmond) 37°.6 N; 77°.5 W	Virginia, west (Lynchburg) 37°.4 N; 79°.2 W	Washington, east (Wilson Creek) 47°.4 N; 119°.0 W	Washington, west (Seattle) 47°.7 N; 122°.3 W	West Virginia (Charleston) 38°.4 N; 81°.6 W	Wisconsin (Madison) 43°.1 N; 89°.4 W
	° ′	° ′	° ′	° ′	° ′	° ′
1750	1 13 W					
1760	0 37	0 08 E				
1770	0 05 W	0 42				
1780	0 20 E	1 11		17 19 E		
1790	0 38	1 33		17 52	2 00 E	
1800	0 47	1 46		18 27	2 15	
1810	0 47	1 51		19 04	2 20	
1820	0 38	1 46		19 41	2 15	8 34 E
1830	0 20 E	1 33		20 16	2 00	8 40
1840	0 05 W	1 11		20 49	1 37	8 34
1850	0 36	0 45	21 16 E	21 19	1 05	8 16
1860	1 12	0 10 E	21 37	21 45	0 30 E	7 49
1870	1 51	0 29 W	21 52	22 06	0 12 W	7 14
1880	2 29	1 09	21 56	22 19	0 51	6 25
1890	3 06	1 46	22 06	22 38	1 28	5 36
1900	3 40	2 22	22 22	22 58	2 06	5 01
1905	3 56 W	2 37 W	22 38 E	23 14 E	2 20 W	4 55 E
Annual change in 1905	3′.0 incr.	2′.8 incr.	3′.2 incr.	3′.2 incr.	2′.6 incr.	0′.0

Year (Jan. 1)	Wyoming, east (Douglas) 42°.7 N; 105°.4 W	Wyoming, west (Green River) 41°.5 N, 109°.5 W
	° ′	° ′
1750		
1760		
1770		
1780		
1790		
1800		
1810		
1820		
1830		
1840		
1850	15 51 E	16 45 E
1860	15 59	16 58
1870	15 59	17 02
1880	15 47	16 54
1890	15 24	16 36
1900	15 19	16 37
1905	15 27 E	16 48 E
Annual change in 1905	2′.4 incr.	2′.8 incr.

Lines of equal annual change in magnetic declination for 1905.

[Blue curves, chart 1.]

These lines (the blue ones on the chart of the "Lines of Equal Magnetic Declination") give in minutes the amount of change in the magnetic declination per annum. It will be seen that this amount varies over the entire country, from nothing to 4′, so that the amount of annual motion of the lines of equal magnetic declination varies from nothing to about $\frac{1}{15}$ of the distance between any two of them. It will be noticed that the annual change lines differ considerably from those of 1902 owing to the great increase of data within recent years and because of peculiar changes amounting even to reversals of direction encountered in certain parts of the country, which could not be anticipated with the data available in 1902.

The note on the chart states that "The north end of the compass is moving to the westward for places east of the line of no change, and to the eastward for places west of the said line, at an annual

rate indicated by the *lines of equal annual change* (blue lines). In other words, east of the line of no change the isogonic lines are moving westward, whereas to the west of the line of no change they are moving eastward."

Accordingly three regions must be distinguished:

(*a*) In the region of the United States east of the agonic line or line of no magnetic declination, where west declination prevails throughout, there the declination is increasing from about 2′ to 4′ per annum. It will be seen that the amount increases with distance from the agonic line until the New England States are reached, where the maximum change occurs; thence, with further progression northeastward, the annual change begins to decrease until a region is reached, which can not be shown on the map, where there is no change, viz, where west declination has reached a maximum value and is, in consequence, nearly stationary at present.

(*b*) In the region between the agonic line and the line of no annual change, which runs practically parallel to the agonic line, the magnetic declination (east) is decreasing at the rate of 0′ to 2′ per annum.

(*c*) In the region west of the line of no annual change, where the magnetic declination is east throughout, it is increasing at the rate of 0′ to 4′ per annum.

In accordance with a steady progression of the secular variation waves westward, it was thought that when easterly declination had ceased to increase and remained stationary for some time—as actually was the case, along the California coast between 1880 and 1890—it would then begin to diminish. On the contrary, however, after remaining nearly stationary for a while, it began to increase very rapidly, so that at present the annual increase is $3\frac{1}{2}'$ to 4′. In other words, the maximum of 1880 to 1890 was apparently not a principal one, but a secondary one.

This extremely interesting though troublesome reversal of the secular change has moved to the eastward, and so rapidly that in twenty years it had already crossed the Mississippi River, and it appears to be still progressing eastward. It was due chiefly to this feature of the secular change that a new reduction of the previously utilized data became necessary.

On the other hand, there is also no question but that the phase of maximum west declination, which, as intimated above, has already occurred in Labrador and Newfoundland, is steadily moving southwestward. Hence there is occurring in the United States at present a most interesting conflict of secular waves, which will necessitate keeping a close watch on the changes for some time to come. The effect of these complicated changes, as pointed out in the note cited above, is to move the isogonic lines which lie east of the line of no annual change, westward, and those west of the no-annual-change line, eastward, or in other words, the lines are being crowded together from both sides of the line of no change.

TABLE IV.

SECULAR CHANGES FOR THE UNITED STATES IN THE THREE MAGNETIC ELEMENTS, DECLINATION (D), INCLINATION (I), AND HORIZONTAL INTENSITY (H), FROM 1840 TO 1905.

SECULAR CHANGES IN THE MAGNETIC ELEMENTS.

Secular motion curves.

[Red curves, chart 7.]

The most suitable method for showing the chief and characteristic features of the secular changes in the magnetic declination and inclination for the United States appears to be by means of the so-called "secular motion curves." These curves are the paths described in space by the north end of a freely suspended magnetic needle, *i. e.*, one so mounted as to turn freely in every direction, and hence setting itself at any time tangent to the actual direction of the lines of magnetic force, thus showing, as the curve progresses, not only the changes in the magnetic declination, but also those in the inclination as well. The observer is supposed to be standing at the point of suspension of the needle and looking toward the north end. As the curve described is a tortuous one, lying on a sphere of radius equal to half the length of the needle, the curve actually drawn is the gnomonic, or central projection of the curve in space upon a plane tangent to the sphere at about the middle point of the curve.

This method of representation was employed by the writer in studying the phenomena of the secular variation over the entire globe; for information as to formulæ, etc., it must suffice here to merely make reference to the publication in question.[a] One of the interesting results of this investigation was that "the direction in which the secular motion curves were described at the stations for which reliable data existed for a sufficiently long period (one hundred to three hundred years) appeared to be clockwise for the entire globe." It was pointed out, however (pp. 50 and 51 of the publication cited), that this apparently universal law may not always hold, but that for more or less limited periods the motion may be reversed and the needle proceed in the opposite direction from what it did immediately before. In fact, even then (1895) it was possible to announce that there were evidences of reversed or indefinite motions on the Pacific coasts on account of the conflict of the secular variation waves in the Pacific Ocean, caused by the fact that certain phases of the secular variation were traveling eastward, thereby coming into collision with those going westward, the latter being those of the larger or more pronounced features.

It was also shown that a consideration of the declination observations of the fifteenth and sixteenth centuries indicated that the law of secular variation at that time was somewhat different from that followed subsequently. These facts gave some indication that we should not expect the secular motion curve for any one station to be closed (if it ever is) in any simple manner, but that more likely it will consist of a number of loops, or even of retrogressions. It is only by such a supposition that the observed facts can be explained and the possibility of a secular variation period, the same for the entire globe, be entertained.

Figure 1 (p. 112) contains the secular motion curves for three typical stations, London, Boston, and Baltimore, drawn to scale, supposing half length of suspended needle to be about 50 centimeters (19.5 inches).

The secular motion curves receive added interest from the further physical fact that they serve to give some idea, at least, of the kind of motion to which the Earth's magnetic poles themselves may be subject. The observer may imagine himself transported to the center of the Earth and observe, say, the motion of the north end of a magnetic needle ever coincident with the Earth's magnetic axis, or with the North Magnetic Pole, and thus get a curve on the Earth's surface similar to those here considered.

In view of the remarkable secular changes observed in the United States during the past decade, it seemed especially profitable to investigate the secular motion curves for a period of about twenty-five to fifty years—as far as the records of thoroughly reliable observations permitted—and to

[a] *L. A. Bauer:* Beiträge zur Kenntniss des Wesens der Säcular Variation des Erdmagnetismus. Inaug. Diss. Un. of Berlin, Mayer and Müller, Berlin, 1895. (An English abstract entitled "On the secular motion of a free magnetic needle," was published in the Physical Review, Ithaca, N. Y., vol. 2, pp. 456–465, and vol. 3, pp. 34–48.)

draw them on a sufficiently large scale to exhibit all of the peculiarities. This necessitated restricting the curves to a period of about half century. The writer in his original publication drew the secular motion curves true to scale, supposing the half length of the freely suspended needle to be 20 centimeters (7.9 inches), and in the diagram above (fig. 1), showing the curves for London, Boston, and Baltimore, the half length of needle was about 50 centimeters (19.5 inches). On plate 7, however, the curves are drawn for half length of needle of about 355 centimeters (11.6 feet), hence eighteen times the original scale, or seven times that used in fig. 1. It must therefore be borne in mind that, on the original scale employed, many of the features shown on the present scale would either not be noticeable at all or appear as knots, small loops, or minor retrogressions. This fact should be considered when referring to the general secular motion prevailing for a century or more. *All that may be said at present is: No stations have been found thus far for which reliable observations*

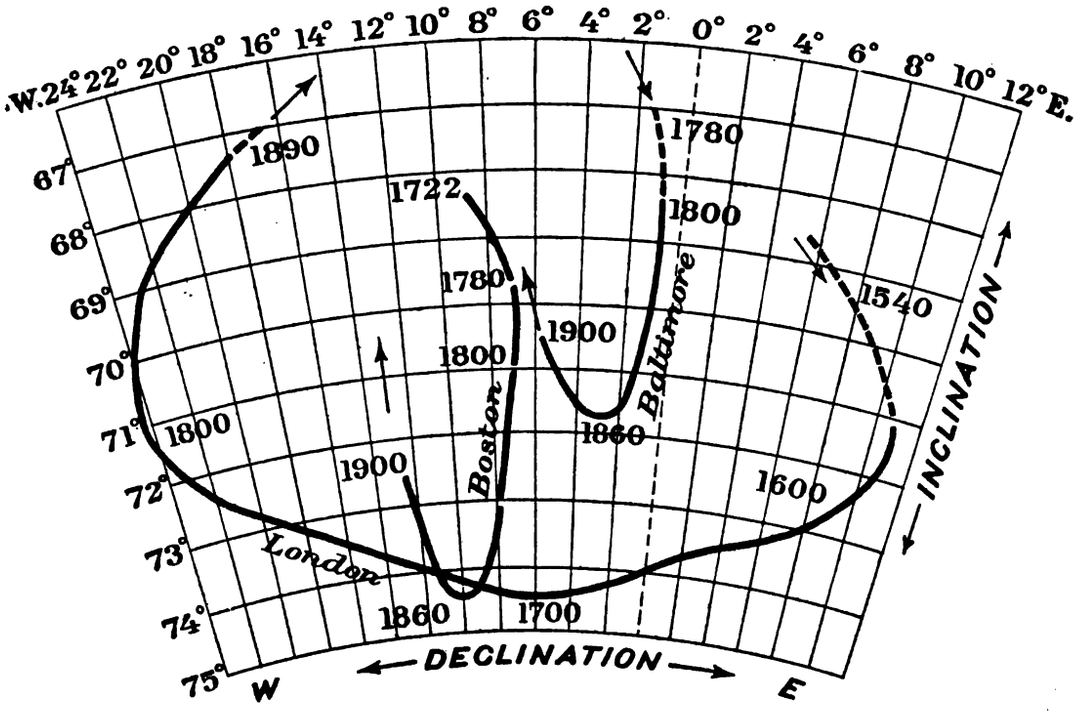

FIG. 1. Curves showing secular change in magnetic and inclination at London, Boston, and Baltimore.

are available, where the reverse or anticlockwise motion has prevailed for any such length of time as has been found the case with the direct or clockwise motion.

For convenience in constructing the general secular motion curves in place on the base map of the United States (scale $\frac{1}{10,000,000}$, polyconic projection), 1° change in the inclination of the magnetic needle was taken equal to 4° of latitude or 62 millimeters, this corresponding to a half length of needle, as already stated, of 355 centimeters. One degree change in the magnetic declination on the projection would be found by multiplying the adopted scale for the inclination changes by the cosine of the average inclination. It was furthermore found convenient to arbitrarily select the values of the magnetic declination and inclination for 1880 as approximately representing the mean values for the interval here considered. The method of construction employed, while not strictly conforming to the principles of gnomonic projection, will suffice for the present purposes. *Points of the curves were plotted for every five years, as shown by the dots, and the latter were then connected by continuous lines. The geographic position of the station to which the curve applies is indicated by a small circle near the 1880 point of the curve. Increasing inclinations are shown by a downward motion of the curve and a change in the declination to the east by a motion of the curve toward the right edge of the chart, i. e., toward the geographic east.*

Table IV, "Secular changes for the United States in the three magnetic elements, declination (D), inclination (I), and horizontal intensity (H) from 1840 to 1905," contains the data used

in the construction of the curves. This table was drawn up with the aid of the secular variation groups employed in the reduction of the magnetic elements to 1905. The values for 1905 were taken from Table V, giving the magnetic elements for each degree of latitude and longitude, and the secular changes as determined from the said groups were applied to them. The secular change data for any one station or curve depend, therefore, upon the results at all the repeat stations in the immediate region. Only so many of the curves are reproduced as are requisite for pursuing successfully the motion and phases from station to station across the country, so as to give opportunity for likewise showing the secular changes in the horizontal intensity, as later described.

An inspection of the secular motion curves exhibits better than any words can describe the exceedingly complicated nature of the secular changes developed in this country during the past quarter of a century. It will be noticed that we have cases of both the direct and the reverse motions. The latter have had their greatest development, during the past twenty-five years, in the Southern Central and Eastern States, the retrogressive movement becoming less and less as we progress to the north and northeastward, and disappearing entirely in eastern British North America. There are reasons for believing that some of the marked and abrupt changes noted in the United States in recent years have likewise made themselves felt, in a more or less pronounced manner, in other regions of the globe.

As far as the analysis of the disturbing systems causing the secular changes has progressed, there is distinct evidence that there are two main systems involved—one an internal system and the other an external one (outside of the Earth's surface).[a] It so happens that at present these two main systems are in such phase with reference to each other that in certain parts of the United States the effect of the outside system predominates over that of the inside system, with the result that the steady westwardly progression of the salient features of the curves is either being retarded or actually is reversed. *Thus, as already pointed out elsewhere, while one phase of east declination is at present rapidly progressing eastwardly (or northeastwardly) across the country, the phase of maximum west declination is progressing more leisurely in a west and southwest direction, having already occurred in Labrador and Newfoundland.*

So likewise with the inclination. In 1880 the line of no annual change skirted along the boundary of the United States and Mexico, with the result that at that time over the entire United States the inclination was *decreasing*, whereas in Mexico it was increasing. In the short space of twenty-five years—in 1905—this line of no annual change of inclination had moved north and northeastward almost to the extreme limit of the northern boundary of the United States, so that at present the inclination is *increasing* over the United States with the exception of the New England States and a strip along the Pacific coast, where it is decreasing. The maximum annual change of about + 4′, in the inclination, is occurring at present in the Gulf of Mexico and Florida.

Precisely the same rapid shift was shown by the line of no change of the horizontal intensity, this line falling, in general, very near to the line of no change of inclination. The changes, however, are reversed, i. e., *in general, where the inclination is increasing the horizontal intensity is decreasing, and vice versa.* Thus in 1880 the horizontal intensity was increasing practically everywhere in the United States, whereas now it is decreasing except in the New England States and in the northwest part of the State of Washington, where it is increasing. The maximum absolute amount of annual change in the horizontal intensity (− 0.0007 C. G. S. unit) is taking place at present in the Gulf of Mexico, Florida, and Cuba.

These comparatively rapid changes seem to prove conclusively that the secular variation cycle is a very complicated one, consisting of periods and subperiods. A preliminary analysis of the magnetic field of the United States has shown that the magnetic forces observed at any given point in the United States are the resultant effects of (1) a general or terrestrial magnetic field due to the general magnetic condition of the Earth, (2) a general, terrestrial disturbing cause which distorts the general magnetic condition of the Earth at the place of observation, (3) a continental disturbing effect, due largely to that portion of the North American continent above the general ocean bed, (4) a regional disturbance due to low-lying magnetized masses or earth currents covering a certain region, and (5) a local disturbance due to the magnetized masses or currents in the immediate vicinity.

[a] See the writer's article: System of magnetic forces causing the secular variation of the uniform portion of the Earth's magnetism, Journal Terrestrial Magnetism and Atmospheric Electricity, vol. 9, 1904, pp. 173–186.

In a like manner the secular variation observed at any one place seems to be the resultant effect of terrestrial, continental, regional, and local disturbing systems. There appears to be sufficient evidence that in areas of local disturbances the secular variation suffers modifications over what it would be in that locality did the cause for the local disturbances not exist.

Along the Atlantic coast, in British North America, the secular motion curves, as far as they can be drawn, exhibit the direct motion, the westerly turning point or phase of maximum west declination having already been passed. In western British North America, south of the parallel 52°, the secular changes in inclination and horizontal intensity during the past half century were, in general, small. The investigation of the secular changes of the countries outside of the United States is receiving the special attention of the Department of Terrestrial Magnetism of the Carnegie Institution of Washington.

Horizontal intensity secular variation curves.

[Blue curves, chart 7.]

There appears to be no good method of exhibiting satisfactorily the time changes in the magnetic force in connection with the declination and inclination changes. (The method of vector diagrams more properly belongs to the mathematical analysis of the forces.) The horizontal intensity changes might be shown by varying the width of the secular motion curve or by perpendiculars drawn to the latter curve proportionate to the intensity changes. It would seem better, however, to treat these changes entirely separately and construct special diagrams.

For convenience, the polyconic projection already on the base map (chart 7) was utilized as the coordinates. The intensity ordinates were laid off on the meridians, 1° latitude (15.5 millimeters) equal to 0.0100 C. G. S. unit, and the time abscissæ on the parallels, 1° longitude equal to ten years. *Increasing horizontal intensity is shown by an upward motion of the curve. Points on the curve (dots) were plotted at intervals of five years with the aid of the data in Table IV and the dots were then joined by a continuous line. The 1880 point for each curve falls in the geographic position to which it refers.* The curves are so distributed as to enable one readily to follow the progression of the characteristic features of the intensity changes over the United States.

A comparison of the secular motion curves and the horizontal intensity curves shows at once that, in general, the horizontal intensity increases where the inclination decreases, and vice versa, as already pointed out. Theory shows that this should, in the main, be the case. For example, if, as the result of the secular variation, the magnetic pole is moving toward a particular station on the globe, the inclination at this station will necessarily increase while the horizontal intensity decreases.

TABLE IV.—*Secular changes for the United States in the three magnetic elements, declination (D), inclination (I), and horizontal intensity (H), from 1840 to 1905.*

Year (Jan. 1)	47° N; 56°.5 W			54° N; 57°.5 W			49° N; 92° W		
	D	I	H	D	I	H	D	I	H
	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*
1840								78 30	.1333
1845								78 28	.1333
1850	27 52 W							78 28	.1333
1855	28 09							78 26	.1332
1860	28 22						9 28 E	78 25	.1330
1865	28 32						9 05	78 24	.1328
1870	28 30		.1465			.1108	8 41	78 22	.1324
1875	28 22		.1487			.1131	8 16	78 20	.1321
1880	28 09	75 02	.1506	38 56 W	78 39	.1149	7 50	78 20	.1319
1885	27 53	74 46	.1520	38 28	78 29	.1166	7 28	78 15	.1318
1890	27 38	74 32	.1533	37 54	78 19	.1184	7 06	78 12	.1318
1895	27 25	74 19	.1545	37 26	78 07	.1198	6 49	78 11	.1321
1900	27 16	74 11	.1555	37 00	77 58	.1211	6 39	78 09	.1324
1905	27 12 W	74 08	.1561	36 38 W	77 51	.1218	6 36 E	78 06	.1330
Annual change in 1905 [a]	−1′.2	−0′.6	+1.2	−4′.5	−1′.5	+1.5	0′.0	−0′.5	+1.0

[a] A *plus* sign invariably means a *numerical increase* of the magnetic element for 1905 and a *minus* sign denotes a *numerical decrease*. The horizontal intensity changes are given in units of the fourth decimal C. G. S. units.

TABLE IV.—*Secular changes for the United States in the three magnetic elements, declination (D), inclination (I), and horizontal intensity (H), from 1840 to 1905*—Continued.

Year (Jan. 1)	49° N; 100° W			49° N; 110° W			49° N; 120° W		
	D	I	H	D	I	H	D	I	H
	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*
1840									
1845									
1850									.1839
1855									.1841
1860							22 36 E	72 26	.1841
1865							22 48	72 24	.1840
1870							22 59	72 22	.1839
1875				20 52 E			23 08	72 22	.1836
1880	15 46 E	76 54	.1469	20 49	74 38	.1665	23 15	72 19	.1831
1885	15 33	76 52	.1467	20 48	74 32	.1662	23 26	72 20	.1826
1890	15 21	76 49	.1465	20 48	74 28	.1657	23 39	72 19	.1821
1895	15 14	76 48	.1463	20 51	74 28	.1654	23 49	72 19	.1819
1900	15 11	76 47	.1462	20 57	74 28	.1652	24 00	72 19	.1820
1905	15 18 E	76 48	.1460	21 06 E	74 30	.1650	24 12 E	72 18	.1820
Annual change in 1905 [a]	+2′.3	+0′.3	−0.2	+3′.1	+0′.4	−0.5	+3′.6	−0′.5	+0.8

Year (Jan. 1)	45° N; 65° W			45° N; 70° W			45° N; 75° W		
	D	I	H	D	I	H	D	I	H
	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*
1840									
1845	18 21 W	75 58	.1492	13 17 W	76 16	.1464	7 46 W	76 46	.1490
1850	18 46	75 57	.1496	13 44	76 16	.1470	8 22	76 45	.1485
1855	19 09	75 56	.1504	14 08	76 13	.1477	8 55	76 43	.1483
1860	19 34	75 50	.1514	14 31	76 06	.1486	9 24	76 39	.1485
1865	19 52	75 41	.1525	14 47	75 58	.1495	9 47	76 35	.1488
1870	20 04	75 32	.1537	15 01	75 50	.1505	10 06	76 30	.1495
1875	20 11	75 20	.1553	15 16	75 40	.1516	10 26	76 25	.1506
1880	20 13	75 08	.1567	15 30	75 30	.1527	10 46	76 13	.1516
1885	20 15	74 57	.1578	15 39	75 21	.1538	10 58	76 02	.1527
1890	20 18	74 46	.1589	15 49	75 11	.1547	11 12	75 53	.1538
1895	20 24	74 35	.1600	16 01	75 00	.1557	11 27	75 43	.1546
1900	20 34	74 28	.1608	16 12	74 53	.1566	11 42	75 38	.1550
1905	20 48 W	74 24	.1610	16 24 W	74 48	.1570	12 00 W	75 36	.1550
Annual change in 1905 [a]	+2′.2	−0′.7	0.0	+2′.8	−1′.0	+0.5	+3′.5	−0′.4	+0.7

Year (Jan. 1)	45° N; 80° W			45° N; 85° W			45° N; 90° W		
	D	I	H	D	I	H	D	I	H
	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*
1840		76 11	.1533		75 52			75 11	
1845		76 14	.1528		75 56			75 15	
1850		76 17	.1525		75 59			75 19	
1855	3 21 W	76 17	.1523	2 31 E	76 00	.1561		75 21	
1860	3 46	76 16	.1522	2 07	76 00	.1560	8 40 E	75 21	.1635
1865	4 08	76 13	.1524	1 44	75 59	.1557	8 18	75 21	.1633
1870	4 28	76 09	.1526	1 20	75 57	.1562	7 55	75 19	.1631
1875	4 50	76 03	.1531	0 56	75 52	.1564	7 31	75 17	.1628
1880	5 16	75 56	.1535	0 30	75 48	.1565	7 06	75 15	.1626
1885	5 34	75 47	.1542	0 06 E	75 40	.1566	6 41	75 08	.1624
1890	5 52	75 39	.1548	0 17 W	75 33	.1567	6 17	75 03	.1623
1895	6 11	75 34	.1554	0 38	75 28	.1570	5 57	75 01	.1624
1900	6 27	75 30	.1557	0 54	75 25	.1570	5 42	74 59	.1623
1905	6 42 W	75 30	.1560	1 06 W	75 24	.1570	5 36 E	75 00	.1620
Annual change in 1905 [a]	+2′.6	0′.0	+0.5	+1′.8	0′.0	0.0	−0′.4	0′.0	−0.8

[a] A *plus* sign invariably means a *numerical increase* of the magnetic element for 1905 and a *minus* sign denotes a *numerical decrease*. The horizontal intensity changes are given in units of the fourth decimal C. G. S. units.

TABLE IV.—*Secular changes for the United States in the three magnetic elements, declination (D), inclination (I), and horizontal intensity (H), from 1840 to 1905*—Continued.

Year (Jan. 1)	45° N; 95° W			45° N; 100° W			45° N; 105° W		
	D	I	H	D	I	H	D	I	H
	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*
1840									
1845									
1850									
1855									
1860				15 36 E					
1865	11 47 E	74 26	.1710	15 11					
1870	11 21	74 25	.1703	14 46			17 27 E		1920
1875	10 57	74 24	.1698	14 20		.1786	17 08		.1919
1880	10 32	74 24	.1695	13 57	73 36	.1786	16 49	72 22	.1918
1885	10 06	74 21	.1694	13 34	73 33	.1784	16 32	72 20	.1916
1890	9 43	74 18	.1694	13 15	73 31	.1781	16 19	72 20	.1913
1895	9 25	74 15	.1694	13 01	73 31	.1778	16 12	72 21	.1910
1900	9 20	74 15	.1693	12 57	73 32	.1775	16 12	72 22	.1906
1905	9 18 E	74 18	.1690	13 06 E	73 36	.1770	16 24 E	72 24	.1900
Annual change in 1905 [a]	+1′.0	+0′.6	−0.9	+2′.1	+0′.8	−1.2	+2′.6	+0′.6	−1.5

Year (Jan. 1)	45° N; 110° W			45° N; 115° W			45° N; 122°.5 W		
	D	I	H	D	I	H	D	I	H
	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*
1840									
1845									
1850							19 55 E	68 36	.2175
1855							20 10	68 35	.2175
1860							20 24	68 34	.2170
1865							20 37	68 37	.2162
1870	19 25 E	71 30	.1939	20 03 E	70 08	.2008	20 49	68 40	.2153
1875	19 10	71 31	.1938	19 59	70 07	.2016	20 58	68 40	.2145
1880	18 55	71 30	.1937	19 52	70 07	.2013	21 06	68 39	.2135
1885	18 44	71 27	.1935	19 47	70 07	.2009	21 10	68 37	.2127
1890	18 37	71 25	.1932	19 46	70 08	.2004	21 14	68 34	.2121
1895	18 36	71 26	.1928	19 49	70 11	.1999	21 21	68 30	.2117
1900	18 40	71 27	.1925	19 56	70 14	.1994	21 32	68 26	.2115
1905	18 54 E	71 30	.1920	20 12 E	70 18	.1990	21 51 E	68 24	.2115
Annual change in 1905 [a]	+3′.0	+0′.5	−1.3	+3′.4	+0′.6	0.0	+3′.9	−0′.8	0.0

Year (Jan. 1)	40° N; 75° W			40° N; 80° W			40° N; 85° W		
	D	I	H	D	I	H	D	I	H
	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*
1840		72 10			71 57	.1916		71 29	
1845	4 17 W	72 16	.1890		72 01	.1916		71 34	
1850	4 33	72 20	.1883	0 02 W	72 03	.1916	4 27 E	71 36	.2040
1855	4 50	72 22	.1880	0 19	72 04	.1918	4 08	71 36	.2035
1860	5 08	72 22	.1883	0 37	72 03	.1920	3 51	71 36	.2030
1865	5 27	72 18	.1891	0 56	72 00	.1923	3 35	71 34	.2026
1870	5 46	72 13	.1902	1 17	71 57	.1928	3 17	71 32	.2022
1875	6 05	72 05	.1911	1 38	71 51	.1934	2 58	71 28	.2018
1880	6 24	71 55	.1919	1 59	71 43	.1941	2 38	71 23	.2015
1885	6 41	71 43	.1925	2 18	71 35	.1945	2 19	71 15	.2015
1890	6 58	71 33	.1930	2 37	71 25	.1946	1 59	71 08	.2014
1895	7 14	71 27	.1931	2 58	71 17	.1946	1 39	71 03	.2011
1900	7 31	71 24	.1928	3 16	71 14	.1942	1 22	71 02	.2002
1905	7 48 W	71 24	.1920	3 30 W	71 18	.1930	1 12 E	71 06	.1990
Annual change in 1905 [a]	+3′.3	0′.0	−2.2	+2′.5	+1′.0	−3.9	−1′.5	+1′.1	−3.5

[a] A *plus* sign invariably means a *numerical increase* of the magnetic element for 1905 and a *minus* sign denotes a *numerical decrease*. The horizontal intensity changes are given in units of the fourth decimal C. G. S. units.

TABLE IV.—*Secular changes for the United States in the three magnetic elements, declination (D), inclination (I), and horizontal intensity (H), from 1840 to 1905*—Continued.

Year (Jan. 1)	40° N; 90° W			40° N; 95° W			40° N; 100° W		
	D	I	H	D	I	H	D	I	H
	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*
1840		70 35							
1845		70 31							
1850		70 30							
1855		70 30							
1860	7 11 E	70 31	.2086	11 13 E	69 39		14 01 E	69 00	
1865	6 58	70 34	.2082	10 56	69 43		13 41	69 00	
1870	6 44	70 37	.2079	10 38	69 46	.2128	13 19	69 00	.2188
1875	6 26	70 36	.2076	10 20	69 46	.2128	12 54	68 57	.2188
1880	6 05	70 32	.2075	9 56	69 43	.2127	12 34	68 55	.2187
1885	5 47	70 29	.2074	9 34	69 41	.2125	12 14	68 53	.2185
1890	5 28	70 26	.2072	9 15	69 38	.2123	12 00	68 52	.2182
1895	5 12	70 25	.2068	9 00	69 39	.2118	11 49	68 54	.2178
1900	5 02	70 26	.2060	8 53	69 42	.2112	11 46	68 59	.2172
1905	5 00 E	70 30	.2050	9 00 E	69 48	.2100	11 54 E	69 06	.2160
Annual change in 1905 [a]	+0′.1	+1′.3	−2.7	+1′.6	+1′.5	−2.9	+2′.1	+1′.4	−2.9

Year (Jan. 1)	40° N; 105° W			40° N; 110° W			40° N; 115° W		
	D	I	H	D	I	H	D	I	H
	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*
1840									
1845									
1850									
1855									
1860									
1865									
1870	15 16 E	67 56	.2272	16 39 E	66 54	.2344	17 12 E	65 35	.2384
1875	14 57	67 53	.2266	16 28	66 53	.2337	17 09	65 36	.2377
1880	14 39	67 51	.2261	16 14	66 52	.2332	17 04	65 35	.2371
1885	14 23	67 51	.2257	16 03	66 51	.2327	17 00	65 34	.2366
1890	14 12	67 51	.2253	15 56	66 52	.2323	16 58	65 35	.2361
1895	14 06	67 52	.2248	15 54	66 53	.2317	17 02	65 36	.2355
1900	14 07	67 56	.2240	15 58	66 56	.2309	17 09	65 38	.2348
1905	14 18 E	68 00	.2230	16 12 E	67 00	.2300	17 24 E	65 42	.2340
Annual change in 1905 [a]	+2′.5	+1′.0	−2.6	+3′.0	+0′.7	−2.4	+3′.2	+0′.6	−2.0

Year (Jan. 1)	40° N; 120° W			35° N; 80° W			35° N; 85° W		
	D	I	H	D	I	H	D	I	H
	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*
1840									
1845				2 40 E					
1850				2 24			4 50 E		
1855				2 07	66 57	.2384	4 34	66 21	
1860		64 48		1 49	66 58	.2379	4 18	66 16	
1865		64 46		1 30	66 57	.2374	4 01	66 13	
1870	17 35 E	64 44	.2429	1 10	66 54	.2369	3 42	66 08	.2450
1875	17 38	64 44	.2420	0 51	66 45	.2367	3 22	66 04	.2450
1880	17 40	64 44	.2412	0 32	66 35	.2363	3 02	65 59	.2444
1885	17 41	64 44	.2406	0 14 E	66 26	.2359	2 42	65 53	.2440
1890	17 44	64 44	.2399	0 05 W	66 21	.2352	2 23	65 50	.2448
1895	17 51	64 45	.2392	0 24	66 20	.2347	2 07	65 49	.2428
1900	18 01	64 45	.2386	0 39	66 22	.2337	1 53	65 52	.2418
1905	18 18 E	64 48	.2380	0 54 W	66 30	.2320	1 48 E	66 00	.2400
Annual change in 1905 [a]	+3′.7	+0′.1	−0.2	+2′.2	+1′.6	−4.8	−0′.4	+1′.8	−4.3

[a] A *plus* sign invariably means a *numerical increase* of the magnetic element for 1905 and a *minus* sign denotes a *numerical decrease*. The horizontal intensity changes are given in units of the fourth decimal C. G. S. units.

TABLE IV.—*Secular changes for the United States in the three magnetic elements, declination (D), inclination (I), and horizontal intensity (H), from 1840 to 1905*—Continued.

Year (Jan. 1)	35° N; 90° W			35° N; 95° W			35° N; 100° W		
	D	I	H	D	I	H	D	I	H
	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*
1840		66 10							
1845		66 10							
1850		66 08							
1855	8 04 E	66 05							
1860	7 46	65 59							
1865	7 26	65 51		10 04 E			11 49 E		
1870	7 05	65 44	.2462	9 40			11 34	63 28	
1875	6 46	65 37	.2462	9 20	64 48	.2551	11 18	63 27	.2595
1880	6 28	65 32	.2461	8 57	64 44	.2539	11 01	63 22	.2583
1885	6 10	65 26	.2458	8 36	64 40	.2528	10 43	63 20	.2573
1890	5 52	65 25	.2455	8 19	64 41	.2520	10 29	63 20	.2564
1895	5 37	65 25	.2447	8 07	64 40	.2510	10 20	63 25	.2556
1900	5 28	65 27	.2437	8 02	64 44	.2499	10 19	63 32	.2546
1905	5 30 E	65 36	.2420	8 12 E	64 54	.2480	10 30 E	63 42	.2530
Annual change in 1905 [a]	+1′.1	+2′.5	−4.2	+2′.0	+2′.2	−4.0	+2′.3	+2′.0	−4.5

Year (Jan. 1)	35° N; 105° W			35° N; 110° W			35° N; 115° W		
	D	I	H	D	I	H	D	I	H
	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*
1840									
1845									
1850								60 32	
1855								60 37	
1860								60 41	
1865								60 47	
1870	13 22 E	62 32		14 18 E	62 07	.2636	14 25 E	60 49	.2677
1875	13 07	62 30	.2620	14 09	62 06	.2627	14 26	60 50	.2665
1880	12 54	62 24	.2608	14 00	62 06	.2619	14 26	60 51	.2654
1885	12 39	62 24	.2599	13 50	62 06	.2613	14 25	60 52	.2646
1890	12 28	62 24	.2590	13 44	62 06	.2607	14 25	60 53	.2637
1895	12 23	62 28	.2583	13 42	62 09	.2601	14 29	60 54	.2631
1900	12 24	62 34	.2573	13 47	62 13	.2593	14 38	60 57	.2625
1905	12 36 E	62 42	.2560	14 00 E	62 18	.2590	14 54 E	61 00	.2620
Annual change in 1905 [a]	+2′.6	+1′.7	−3.3	+2′.8	+1′.0	−2.7	+3′.2	0′.0	−2.0

Year (Jan. 1)	35° N; 120° W			30° N; 83° W			30° N; 92° W		
	D	I	H	D	I	H	D	I	H
	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*
1840									
1845									
1850		60 00		4 50 E	61 01	.2813			
1855	14 28 E	60 03		4 34	61 06	.2803			
1860	14 40	60 06		4 18	61 10	.2795			
1865	14 51	60 08		4 00	61 13	.2788			
1870	15 01	60 08	.2720	3 42	61 14	.2780	7 34 E	59 25	.2836
1875	15 07	60 07	.2707	3 22	61 13	.2772	7 15	59 25	.2833
1880	15 12	60 06	.2695	3 03	61 07	.2763	6 59	59 26	.2828
1885	15 14	60 08	.2683	2 45	60 57	.2752	6 44	59 22	.2823
1890	15 16	60 11	.2672	2 27	60 51	.2740	6 32	59 23	.2816
1895	15 23	60 13	.2663	2 11	60 53	.2725	6 17	59 26	.2807
1900	15 35	60 14	.2656	1 59	61 03	.2706	6 10	59 34	.2792
1905	15 54 E	60 12	.2650	1 54 E	61 18	.2680	6 18 E	59 48	.2770
Annual change in 1905 [a]	+3′.7	−0′.7	−1.3	−1′.0	+3′.6	−7.1	+2′.0	+3′.5	−6.8

[a] A *plus* sign invariably means a *numerical increase* of the magnetic element for 1905 and a *minus* sign denotes a *numerical decrease*. The horizontal intensity changes are given in units of the fourth decimal C. G. S. units.

TABLE IV.—*Secular changes for the United States in the three magnetic elements, declination (D), inclination (I), and horizontal intensity (H), from 1840 to 1905*—Continued.

Year (Jan. 1)	30° N; 100° W			30° N; 115° W			25° N; 80° W		
	D	I	H	D	I	H	D	I	H
	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*
1840									
1845		57 48							
1850		57 44		11 56 E	54 42	.3053	4 25 E	55 46	.3111
1855		57 44		12 08	54 53	.3040	4 13	55 49	.3099
1860		57 49		12 19	55 02	.3026	3 59	55 49	.3086
1865		57 58	.2961	12 28	55 09	.3011	3 42	55 48	.3073
1870	9 59 E	58 07	.2942	12 34	55 11	.2996	3 25	55 46	.3057
1875	9 49	58 10	.2924	12 36	55 10	.2979	3 05	55 43	.3042
1880	9 36	58 05	.2907	12 35	55 12	.2964	2 48	55 40	.3025
1885	9 23	58 00	.2891	12 32	55 15	.2952	2 32	55 35	.3008
1890	9 09	58 01	.2877	12 30	55 19	.2940	2 18	55 35	.2990
1895	9 00	58 08	.2865	12 33	55 25	.2929	2 06	55 39	.2970
1900	9 00	58 17	.2850	12 42	55 31	.2920	1 56	55 48	.2949
1905	9 12 E	58 30	.2830	13 00 E	55 36	.2910	1 48 E	56 00	.2920
Annual change in 1905 [a]	+2′.8	+3′.0	−5.1	+3′.1	+1′.0	−2.3	−1′.0	+3′.4	−6.0

Year (Jan. 1)	25° N; 110° W			20° N; 80° W			20° N; 90° W		
	D	I	H	D	I	H	D	I	H
	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*
1840	9 28 E	48 26	.3253	5 01 E	49 27	.3294	8 00 E		
1845	9 38	48 41	.3246	4 59	49 23	.3295	7 52		
1850	9 49	48 55	.3238	4 56	49 21	.3295	7 42		
1855	10 00	49 08	.3229	4 51	49 19	.3294	7 31	46 35	.3381
1860	10 09	49 20	.3218	4 44	49 20	.3292	7 20	46 37	.3373
1865	10 16	49 30	.3204	4 33	49 23	.3288	7 07	46 40	.3363
1870	10 21	49 39	.3189	4 22	49 25	.3276	6 52	46 43	.3349
1875	10 24	49 46	.3170	4 03	49 27	.3263	6 35	46 46	.3332
1880	10 25	49 55	.3155	3 44	49 30	.3246	6 19	46 52	.3313
1885	10 25	50 01	.3143	3 24	49 35	.3225	6 07	46 59	.3293
1890	10 26	50 08	.3130	3 07	49 42	.3202	5 57	47 08	.3270
1895	10 30	50 16	.3117	2 54	49 50	.3177	5 48	47 19	.3245
1900	10 36	50 26	.3104	2 44	50 01	.3150	5 40	47 33	.3219
1905	10 48 E	50 36	.3090	2 36 E	50 12	.3120	5 36 E	47 48	.3190
Annual change in 1905 [a]	+2′.2	+2′.0	−3.1	−1′.8	+2′.6	−6.7	−0′.4	+3′.2	−6.1

Year (Jan. 1)	20° N; 100° W			22° N; 107° W					
	D	I	H	D	I	H			
	° ′	° ′	*c. g. s.*	° ′	° ′	*c. g. s.*			
1840	8 13 E			7 56 E	45 15	.3364			
1845	8 15			8 05	45 27	.3359			
1850	8 16			8 14	45 39	.3353			
1855	8 18	44 09	.3452	8 23	45 51	.3345			
1860	8 19	44 12	.3442	8 31	46 01	.3338			
1865	8 18	44 16	.3430	8 37	46 11	.3327			
1870	8 17	44 22	.3417	8 43	46 22	.3316			
1875	8 13	44 27	.3400	8 49	46 32	.3301			
1880	8 06	44 34	.3382	8 55	46 41	.3286			
1885	7 59	44 40	.3364	9 01	46 46	.3273			
1890	7 54	44 50	.3343	9 07	46 53	.3260			
1895	7 53	44 59	.3323	9 13	47 00	.3244			
1900	7 57	45 13	.3302	9 18	47 08	.3228			
1905	8 06 E	45 30	.3280	9 24 E	47 18	.3210			
Annual change in 1905 [a]	+2′.0	+3′.5	−5.0	+1′.8	+2′.5	−4.0			

[a] A *plus* sign invariably means a *numerical increase* of the magnetic element for 1905 and a *minus* sign denotes a *numerical decrease*. The horizontal intensity changes are given in units of the fourth decimal C. G. S. units.

TABLE V.

THE MAGNETIC ELEMENTS AND MAGNETIC COMPONENTS FOR EACH DEGREE OF LATITUDE AND LONGITUDE ON JANUARY 1, 1905, FOR NORTH AMERICA, FROM 17° N. TO 49° N.

MAGNETIC ELEMENTS AND COMPONENTS.

Explanatory remarks.

Table V contains for each degree of latitude and longitude from 17° north to 49° north the quantities D (declination), I (inclination), and H (horizontal intensity) in C. G. S. units, scaled from charts 1, 2, and 3, and also the quantities derived by computation and likewise expressed in C. G. S. units, viz: X, the component positive toward the north; Y, the component positive toward the east; Z, the component positive downward, and F, the intensity of the Earth's total magnetic force. This table contains the data used in the construction of charts 4 and 5 and will also serve as the basis for future discussions of the United States magnetic field and its secular variations. The scalings and computations were made independently by two persons. The *maximum* errors in scaling are: ±0°.05 (3′) in D and I, and ±0.0005 C. G. S. unit in H.

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*

LATITUDE 17° N.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
74	1.2 E	47.0	.311	.3110	+.0065	.3334	.4559	74
75	1.5 E	47.0	.312	.3120	+.0081	.3345	.4574	75
76	1.9 E	47.0	.314	.3137	+.0104	.3366	.4603	76
77	2.2 E	46.9	.315	.3147	+.0120	.3367	.4612	77
78	2.5 E	46.8	.316	.3157	+.0139	.3365	.4617	78
79	2.8 E	46.8	.318	.3177	+.0156	.3387	.4646	79
80	3.2 E	46.7	.319	.3184	+.0179	.3385	.4651	80
81	3.6 E	46.5	.320	.3194	+.0202	.3373	.4650	81

LATITUDE 18° N.

°	°	°						°
74	1.1 E	47.7	.308	.3080	+.0059	.3385	.4577	74
75	1.5 E	47.8	.310	.3100	+.0081	.3419	.4616	75
76	1.9 E	47.8	.311	.3107	+.0103	.3430	.4631	76
77	2.2 E	47.8	.313	.3127	+.0119	.3452	.4661	77
78	2.5 E	47.7	.314	.3137	+.0138	.3451	.4666	78
79	2.8 E	47.7	.315	.3147	+.0154	.3462	.4681	79
80	3.1 E	47.7	.316	.3157	+.0171	.3473	.4696	80
81	3.4 E	47.7	.318	.3174	+.0188	.3495	.4725	81
82	3.8 E	47.4	.319	.3184	+.0211	.3468	.4712	82
83	4.2 E	47.2	.320	.3190	+.0234	.3456	.4710	83
84	4.5 E	46.8	.321	.3200	+.0250	.3419	.4690	84
85	4.8 E	46.4	.322	.3207	+.0270	.3381	.4669	85
86	5.0 E	46.0	.323	.3217	+.0281	.3346	.4651	86
87	5.2 E	45.6	.324	.3227	+.0295	.3308	.4630	87
88	5.5 E	45.2	.325	.3234	+.0312	.3273	.4612	88
89	5.7 E	45.0	.325	.3234	+.0322	.3250	.4596	89
90	6.0 E	44.8	.326	.3244	+.0342	.3237	.4593	90
91	6.1 E	44.6	.327	.3250	+.0347	.3224	.4591	91
92	6.5 E	44.4	.328	.3260	+.0371	.3211	.4592	92

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 19° N.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
74	1.0 E	48.8	.305	.3050	+.0052	.3483	.4630	74
75	1.4 E	48.8	.307	.3070	+.0074	.3506	.4660	75
76	1.8 E	48.8	.308	.3080	+.0095	.3517	.4675	76
77	2.1 E	48.9	.310	.3097	+.0115	.3553	.4715	77
78	2.3 E	49.0	.312	.3117	+.0125	.3588	.4755	78
79	2.5 E	49.1	.313	.3127	+.0138	.3612	.4780	79
80	2.8 F	49.1	.314	.3137	+.0154	.3624	.4795	80
81	3.2 E	49.0	.315	.3144	+.0176	.3622	.4801	81
82	3.6 E	48.6	.316	.3154	+.0199	.3583	.4778	82
83	3.9 E	48.1	.317	.3164	+.0216	.3535	.4745	83
84	4.2 E	47.8	.318	.3170	+.0232	.3508	.4735	84
85	4.5 E	47.5	.319	.3180	+.0249	.3480	.4721	85
86	4.7 E	47.2	.321	.3200	+.0263	.3467	.4725	86
87	5.1 E	46.9	.322	.3207	+.0287	.3442	.4714	87
88	5.3 E	46.6	.322	.3207	+.0296	.3404	.4685	88
89	5.5 E	46.5	.322	.3204	+.0309	.3394	.4679	89
90	5.8 E	46.3	.322	.3204	+.0325	.3368	.4659	90
91	6.0 E	46.2	.323	.3214	+.0339	.3369	.4667	91
92	6.2 E	45.8	.325	.3230	+.0351	.3341	.4660	92
93	6.4 E	45.5	.326	.3240	+.0362	.3319	.4652	93
94	6.6 E	45.2	.327	.3247	+.0376	.3293	.4640	94
95	6.9 E	44.8	.328	.3257	+.0394	.3257	.4622	95
96	7.2 E	44.6	.329	.3264	+.0411	.3244	.4619	96
97	7.4 E	44.6	.330	.3274	+.0426	.3254	.4633	97
98	7.6 E	44.4	.331	.3280	+.0437	.3240	.4634	98
99	7.7 E	44.3	.331	.3280	+.0444	.3231	.4629	99
100	7.9 E	44.2	.332	.3290	+.0455	.3227	.4631	100
101	8.0 E	44.1	.332	.3287	+.0461	.3217	.4625	101
102	8.1 E	44.1	.332	.3287	+.0468	.3217	.4625	102
103	8.2 E	44.0	.331	.3277	+.0473	.3197	.4601	103
104	8.3 E	44.0	.331	.3277	+.0477	.3197	.4601	104
105	8.4 E	43.9	.331	.3274	+.0483	.3184	.4594	105

LATITUDE 20° N.

°	°	°						°
74	0.9 E	50.2	.302	.3020	+.0048	.3624	.4717	74
75	1.3 E	50.0	.304	.3040	+.0070	.3624	.4730	75
76	1.6 E	50.0	.306	.3060	+.0086	.3648	.4761	76
77	1.8 E	50.1	.308	.3080	+.0095	.3684	.4802	77
78	2.0 E	50.2	.309	.3087	+.0108	.3708	.4827	78
79	2.3 E	50.2	.311	.3107	+.0124	.3732	.4858	79
80	2.6 E	50.2	.312	.3117	+.0140	.3744	.4873	80
81	2.9 E	50.0	.313	.3127	+.0160	.3731	.4870	81
82	3.3 E	49.6	.314	.3134	+.0182	.3690	.4845	82
83	3.7 E	49.2	.314	.3134	+.0204	.3639	.4804	83
84	3.9 E	49.0	.315	.3144	+.0214	.3622	.4801	84
85	4.2 E	48.8	.316	.3151	+.0231	.3609	.4797	85
86	4.4 E	48.6	.317	.3160	+.0244	.3595	.4793	86
87	4.8 E	48.3	.319	.3177	+.0268	.3579	.4795	87
88	5.1 E	48.1	.320	.3187	+.0285	.3568	.4790	88
89	5.4 E	47.9	.319	.3177	+.0300	.3531	.4759	89
90	5.6 E	47.8	.319	.3174	+.0313	.3519	.4750	90
91	5.9 E	47.6	.320	.3184	+.0330	.3504	.4746	91
92	6.1 E	47.4	.321	.3191	+.0340	.3489	.4741	92
93	6.3 E	47.1	.322	.3201	+.0354	.3465	.4730	93
94	6.6 E	46.8	.323	.3207	+.0371	.3440	.4719	94
95	6.9 E	46.6	.324	.3217	+.0389	.3425	.4714	95
96	7.1 E	46.5	.325	.3224	+.0403	.3426	.4722	96
97	7.4 E	46.4	.326	.3234	+.0421	.3423	.4727	97
98	7.6 E	46.2	.327	.3241	+.0432	.3411	.4725	98
99	7.9 E	45.8	.327	.3241	+.0448	.3362	.4689	99
100	8.1 E	45.5	.328	.3247	+.0462	.3339	.4681	100
101	8.2 E	45.2	.328	.3247	+.0469	.3303	.4654	101
102	8.3 E	45.2	.328	.3247	+.0472	.3303	.4654	102
103	8.4 E	45.2	.327	.3234	+.0477	.3293	.4640	103
104	8.5 E	45.2	.327	.3234	+.0484	.3293	.4640	104
105	8.6 E	45.2	.327	.3234	+.0490	.3293	.4640	105
106	8.7 E	45.1	.327	.3231	+.0494	.3283	.4634	106
107	8.9 E	44.9	.328	.3241	+.0508	.3270	.4631	107

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 21° N.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
74	0.7 E	51.4	.299	.2990	+.0036	.3746	.4793	74
75	1.1 E	51.0	.301	.3010	+.0057	.3717	.4783	75
76	1.3 E	50.8	.303	.3030	+.0070	.3715	.4793	76
77	1.5 E	50.9	.305	.3050	+.0079	.3752	.4837	77
78	1.7 E	51.0	.306	.3060	+.0092	.3779	.4862	78
79	2.0 E	51.1	.308	.3077	+.0108	.3816	.4903	79
80	2.3 E	51.1	.309	.3087	+.0124	.3829	.4919	80
81	2.7 E	50.9	.310	.3097	+.0146	.3813	.4917	81
82	3.0 E	50.6	.311	.3107	+.0162	.3785	.4898	82
83	3.2 E	50.3	.311	.3104	+.0174	.3748	.4870	83
84	3.5 E	50.1	.312	.3114	+.0190	.3732	.4864	84
85	3.8 E	50.0	.314	.3134	+.0207	.3743	.4886	85
86	4.2 E	50.1	.313	.3121	+.0228	.3743	.4880	86
87	4.6 E	49.8	.314	.3131	+.0251	.3715	.4864	87
88	5.0 E	49.6	.315	.3137	+.0274	.3701	.4860	88
89	5.2 E	49.4	.316	.3147	+.0288	.3688	.4857	89
90	5.5 E	49.3	.316	.3144	+.0303	.3675	.4847	90
91	5.7 E	49.2	.316	.3144	+.0313	.3662	.4835	91
92	6.0 E	48.9	.317	.3154	+.0333	.3633	.4822	92
93	6.3 E	48.7	.318	.3161	+.0350	.3619	.4818	93
94	6.6 E	48.4	.319	.3168	+.0367	.3592	.4804	94
95	6.8 E	48.2	.320	.3178	+.0378	.3578	.4800	95
96	7.2 E	47.9	.321	.3184	+.0401	.3553	.4789	96
97	7.4 E	47.7	.322	.3194	+.0415	.3539	.4785	97
98	7.7 E	47.5	.322	.3191	+.0431	.3513	.4766	98
99	8.0 E	47.3	.323	.3198	+.0449	.3501	.4764	99
100	8.2 E	47.0	.324	.3208	+.0463	.3473	.4750	100
101	8.4 E	46.8	.324	.3204	+.0473	.3451	.4734	101
102	8.5 E	46.8	.324	.3204	+.0480	.3451	.4734	102
103	8.6 E	46.6	.324	.3204	+.0486	.3425	.4714	103
104	8.7 E	46.5	.324	.3201	+.0489	.3415	.4708	104
105	8.8 E	46.5	.324	.3201	+.0496	.3415	.4708	105
106	8.9 E	46.4	.324	.3201	+.0502	.3402	.4698	106
107	9.2 E	46.1	.324	.3198	+.0518	.3366	.4672	107

LATITUDE 22° N.

°	°	°						°
74	0.4 E	52.5	.296	.2960	+.0021	.3857	.4863	74
75	0.7 E	52.4	.298	.2980	+.0036	.3871	.4884	75
76	1.0 E	52.3	.300	.3000	+.0051	.3882	.4905	76
77	1.2 E	52.2	.302	.3020	+.0063	.3893	.4929	77
78	1.4 E	52.1	.304	.3040	+.0073	.3906	.4949	78
79	1.8 E	52.1	.305	.3050	+.0095	.3919	.4965	79
80	2.1 E	52.0	.306	.3057	+.0113	.3917	.4969	80
81	2.4 E	51.8	.307	.3067	+.0129	.3902	.4964	81
82	2.7 E	51.7	.307	.3067	+.0144	.3887	.4952	82
83	3.0 E	51.4	.307	.3067	+.0160	.3847	.4921	83
84	3.4 E	51.2	.309	.3084	+.0182	.3844	.4932	84
85	3.7 E	51.1	.310	.3094	+.0202	.3841	.4935	85
86	4.1 E	51.1	.308	.3071	+.0222	.3816	.4903	86
87	4.5 E	51.0	.310	.3091	+.0242	.3828	.4926	87
88	4.9 E	50.8	.312	.3108	+.0265	.3825	.4936	88
89	5.2 E	50.6	.312	.3108	+.0284	.3797	.4914	89
90	5.4 E	50.6	.313	.3117	+.0294	.3809	.4930	90
91	5.7 E	50.5	.313	.3114	+.0310	.3797	.4920	91
92	5.9 E	50.3	.313	.3114	+.0322	.3772	.4902	92
93	6.2 E	50.1	.314	.3121	+.0339	.3755	.4895	93
94	6.5 E	49.7	.315	.3131	+.0356	.3714	.4870	94
95	6.9 E	49.4	.316	.3138	+.0379	.3688	.4857	95
96	7.2 E	49.2	.317	.3145	+.0396	.3674	.4850	96
97	7.5 E	48.9	.318	.3151	+.0417	.3644	.4837	97
98	7.8 E	48.7	.318	.3151	+.0432	.3619	.4818	98
99	8.1 E	48.5	.319	.3158	+.0450	.3605	.4814	99
100	8.3 E	48.3	.319	.3158	+.0459	.3579	.4795	100
101	8.5 E	48.1	.320	.3165	+.0474	.3568	.4790	101

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 22° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
102	8.7 E	47.9	.320	.3162	+.0483	.3542	.4774	102
103	8.8 E	47.7	.320	.3162	+.0490	.3517	.4755	103
104	8.9 E	47.7	.320	.3162	+.0496	.3517	.4755	104
105	9.0 E	47.7	.320	.3162	+.0499	.3517	.4755	105
106	9.2 E	47.6	.320	.3158	+.0512	.3504	.4746	106
107	9.4 E	47.3	.321	.3168	+.0523	.3480	.4735	107
108	9.7 E	47.1	.321	.3165	+.0539	.3454	.4715	108

LATITUDE 23° N.

°	°	°						°
72	0.8 W	54.2	.288	.2880	−.0040	.3995	.4925	72
73	0.4 W	54.0	.290	.2900	−.0020	.3990	.4933	73
74	0.0	53.8	.291	.2910	.0000	.3975	.4927	74
75	0.4 E	53.7	.293	.2930	+.0021	.3988	.4949	75
76	0.6 E	53.5	.296	.2960	+.0030	.3999	.4976	76
77	0.9 E	53.4	.298	.2980	+.0048	.4011	.4997	77
78	1.2 E	53.2	.300	.3000	+.0063	.4011	.5007	78
79	1.6 E	53.1	.302	.3020	+.0085	.4023	.5031	79
80	1.9 E	53.0	.303	.3027	+.0100	.4021	.5036	80
81	2.3 E	52.9	.303	.3027	+.0121	.4006	.5024	81
82	2.7 E	52.8	.304	.3037	+.0143	.4004	.5028	82
83	3.2 E	53.0	.303	.3024	+.0170	.4021	.5036	83
84	3.5 E	52.3	.305	.3044	+.0186	.3947	.4987	84
85	3.9 E	52.4	.305	.3044	+.0207	.3952	.4999	85
86	4.2 E	52.2	.304	.3031	+.0222	.3919	.4961	86
87	4.5 E	52.0	.305	.3041	+.0238	.3904	.4953	87
88	4.8 E	51.8	.307	.3058	+.0258	.3902	.4964	88
89	5.2 E	51.7	.309	.3078	+.0281	.3912	.4984	89
90	5.4 E	51.8	.309	.3078	+.0290	.3927	.4997	90
91	5.7 E	51.8	.309	.3075	+.0306	.3927	.4997	91
92	5.9 E	51.6	.309	.3075	+.0318	.3900	.4975	92
93	6.3 E	51.4	.310	.3081	+.0341	.3884	.4969	93
94	6.6 E	51.0	.311	.3088	+.0358	.3841	.4942	94
95	6.9 E	50.7	.312	.3098	+.0374	.3813	.4927	95
96	7.2 E	50.5	.313	.3105	+.0391	.3797	.4920	96
97	7.6 E	50.2	.314	.3112	+.0414	.3768	.4905	97
98	7.9 E	49.9	.314	.3112	+.0430	.3730	.4873	98
99	8.2 E	49.8	.315	.3118	+.0450	.3726	.4879	99
100	8.5 E	49.6	.315	.3115	+.0466	.3701	.4860	100
101	8.7 E	49.3	.316	.3122	+.0477	.3675	.4847	101
102	8.9 E	49.1	.316	.3122	+.0490	.3647	.4825	102
103	9.0 E	49.0	.316	.3122	+.0493	.3634	.4816	103
104	9.2 E	48.9	.316	.3119	+.0506	.3621	.4806	104
105	9.4 E	48.8	.317	.3129	+.0517	.3620	.4812	105
106	9.5 E	48.8	.317	.3126	+.0523	.3620	.4812	106
107	9.7 E	48.6	.317	.3126	+.0533	.3595	.4793	107
108	10.0 E	48.4	.318	.3132	+.0553	.3581	.4789	108
109	10.2 E	48.2	.318	.3129	+.0563	.3555	.4770	109
110	10.3 E	48.2	.320	.3149	+.0573	.3578	.4800	110
111	10.5 E	47.9	.323	.3175	+.0588	.3576	.4819	111
112	10.7 E	47.6	.323	.3175	+.0601	.3537	.4790	112
113	10.8 E	47.4	.322	.3162	+.0602	.3500	.4756	113

LATITUDE 24° N.

°	°	°						°
72	1.1 W	55.6	.283	.2830	−.0054	.4132	.5009	72
73	0.7 W	55.4	.285	.2850	−.0034	.4132	.5019	73
74	0.4 W	55.1	.287	.2870	−.0020	.4113	.5017	74
75	0.0	54.8	.289	.2890	.0000	.4098	.5014	75
76	0.3 E	54.6	.291	.2910	+.0015	.4094	.5023	76
77	0.6 E	54.5	.293	.2930	+.0029	.4108	.5046	77
78	1.0 E	54.4	.296	.2960	+.0050	.4135	.5085	78

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 24° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
79	1.4 E	54.4	.298	.2980	+.0072	.4163	.5120	79
80	1.8 E	54.3	.300	.3000	+.0093	.4176	.5142	80
81	2.2 E	54.3	.298	.2977	+.0113	.4148	.5108	81
82	2.6 E	54.3	.299	.2987	+.0135	.4162	.5125	82
83	3.1 E	53.9	.299	.2987	+.0161	.4099	.5074	83
84	3.5 E	53.6	.300	.2994	+.0183	.4068	.5055	84
85	4.0 E	53.5	.300	.2994	+.0210	.4053	.5043	85
86	4.3 E	53.3	.300	.2991	+.0225	.4026	.5019	86
87	4.6 E	53.2	.300	.2991	+.0240	.4011	.5007	87
88	4.9 E	53.2	.302	.3008	+.0257	.4038	.5040	88
89	5.2 E	53.1	.304	.3028	+.0277	.4049	.5065	89
90	5.4 E	53.2	.304	.3028	+.0286	.4064	.5074	90
91	5.7 E	53.1	.304	.3025	+.0301	.4049	.5065	91
92	6.0 E	52.8	.304	.3025	+.0319	.4004	.5028	92
93	6.3 E	52.6	.306	.3042	+.0337	.4002	.5037	93
94	6.6 E	52.2	.307	.3049	+.0353	.3957	.5010	94
95	7.0 E	52.0	.308	.3058	+.0376	.3942	.5002	95
96	7.3 E	51.8	.310	.3075	+.0394	.3940	.5013	96
97	7.6 E	51.6	.310	.3072	+.0409	.3912	.4991	97
98	8.0 E	51.4	.310	.3069	+.0431	.3884	.4969	98
99	8.3 E	51.2	.311	.3079	+.0448	.3869	.4964	99
100	8.6 E	51.0	.311	.3076	+.0466	.3841	.4942	100
101	8.9 E	50.8	.312	.3083	+.0484	.3825	.4936	101
102	9.1 E	50.6	.313	.3089	+.0495	.3809	.4930	102
103	9.3 E	50.4	.313	.3089	+.0507	.3784	.4911	103
104	9.4 E	50.3	.313	.3089	+.0510	.3772	.4902	104
105	9.6 E	50.2	.312	.3076	+.0521	.3744	.4873	105
106	9.8 E	50.0	.312	.3073	+.0530	.3719	.4855	106
107	10.0 E	49.8	.313	.3083	+.0545	.3703	.4848	107
108	10.2 E	49.7	.314	.3090	+.0556	.3702	.4854	108
109	10.4 E	49.7	.314	.3090	+.0568	.3702	.4854	109
110	10.5 E	49.8	.317	.3116	+.0577	.3750	.4910	110
111	10.7 E	49.4	.320	.3146	+.0595	.3734	.4918	111
112	10.9 E	48.8	.321	.3152	+.0607	.3666	.4873	112
113	11.0 E	48.7	.320	.3142	+.0611	.3642	.4848	113
114	11.2 E	48.7	.318	.3120	+.0617	.3619	.4818	114

LATITUDE 25° N.

°	°	°						°
71	1.8 W	56.9	.278	.2780	−.0086	.4265	.5090	71
72	1.4 W	56.8	.279	.2790	−.0067	.4263	.5095	72
73	1.0 W	56.7	.280	.2800	−.0048	.4262	.5099	73
74	0.7 W	56.5	.282	.2820	−.0034	.4261	.5110	74
75	0.4 W	56.3	.284	.2840	−.0020	.4257	.5118	75
76	0.0	56.3	.286	.2860	.0000	.4287	.5154	76
77	0.4 E	56.0	.288	.2880	+.0020	.4271	.5149	77
78	0.9 E	55.9	.290	.2900	+.0046	.4283	.5174	78
79	1.3 E	55.8	.292	.2920	+.0067	.4295	.5195	79
80	1.8 E	56.0	.292	.2920	+.0091	.4330	.5221	80
81	2.2 E	55.7	.290	.2897	+.0110	.4251	.5148	81
82	2.6 E	55.5	.293	.2927	+.0132	.4263	.5174	82
83	2.9 E	55.2	.293	.2927	+.0149	.4216	.5133	83
84	3.4 E	55.0	.294	.2934	+.0173	.4198	.5124	84
85	3.9 E	55.0	.295	.2944	+.0201	.4213	.5142	85
86	4.2 E	54.8	.295	.2941	+.0215	.4183	.5118	86
87	4.5 E	54.6	.296	.2951	+.0231	.4165	.5109	87
88	4.8 E	54.5	.298	.2968	+.0250	.4178	.5132	88
89	5.2 E	54.5	.299	.2978	+.0272	.4192	.5149	89
90	5.5 E	54.5	.299	.2975	+.0287	.4192	.5149	90
91	5.8 E	54.4	.299	.2975	+.0302	.4177	.5137	91
92	6.1 E	54.2	.300	.2982	+.0318	.4161	.5130	92
93	6.4 E	53.8	.302	.3002	+.0335	.4125	.5113	93
94	6.8 E	53.4	.303	.3009	+.0358	.4078	.5081	94
95	7.1 E	53.2	.304	.3016	+.0377	.4064	.5074	95
96	7.4 E	53.0	.306	.3036	+.0395	.4061	.5086	96
97	7.8 E	52.8	.306	.3032	+.0416	.4030	.5061	97

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 25° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
98	8.1 E	52.6	.306	.3029	+.0431	.4002	.5037	98
99	8.4 E	52.6	.307	.3036	+.0448	.4016	.5053	99
100	8.7 E	52.4	.307	.3033	+.0464	.3988	.5032	100
101	9.0 E	52.2	.308	.3043	+.0480	.3970	.5027	101
102	9.3 E	52.0	.309	.3050	+.0501	.3955	.5018	102
103	9.5 E	51.8	.309	.3047	+.0510	.3927	.4997	103
104	9.7 E	51.6	.309	.3047	+.0519	.3900	.4975	104
105	9.8 E	51.5	.308	.3034	+.0524	.3872	.4946	105
106	10.0 E	51.4	.308	.3034	+.0536	.3859	.4937	106
107	10.2 E	51.2	.309	.3041	+.0547	.3844	.4932	107
108	10.4 E	51.0	.310	.3050	+.0561	.3828	.4926	108
109	10.6 E	50.8	.309	.3037	+.0569	.3788	.4888	109
110	10.8 E	50.6	.309	.3034	+.0578	.3761	.4867	110
111	10.9 E	50.5	.312	.3064	+.0590	.3785	.4905	111
112	11.1 E	50.3	.316	.3100	+.0610	.3808	.4949	112
113	11.3 E	50.3	.316	.3100	+.0619	.3808	.4949	113
114	11.4 E	50.2	.314	.3077	+.0622	.3768	.4905	114
115	11.5 E	49.8	.312	.3058	+.0621	.3691	.4833	115
116	11.7 E	49.3	.310	.3035	+.0629	.3605	.4755	116
117	11.7 E	48.9	.308	.3015	+.0625	.3530	.4685	117
118	11.8 E	48.6	.307	.3006	+.0626	.3481	.4642	118
119	11.9 E	48.4	.306	.2996	+.0630	.3446	.4608	119
120	11.9 E	48.3	.304	.2976	+.0626	.3411	.4569	120
121	12.0 E	48.1	.303	.2963	+.0630	.3378	.4536	121

LATITUDE 26° N.

°	°	°						°
71	2.2 W	58.1	.274	.2737	−.0104	.4403	.5184	71
72	1.8 W	58.1	.275	.2750	−.0085	.4419	.5203	72
73	1.4 W	58.0	.276	.2760	−.0066	.4416	.5208	73
74	1.0 W	58.0	.277	.2770	−.0047	.4432	.5227	74
75	0.7 W	57.8	.279	.2790	−.0033	.4431	.5237	75
76	0.3 W	57.8	.280	.2800	−.0014	.4446	.5256	76
77	0.1 E	57.6	.282	.2820	+.0006	.4444	.5262	77
78	0.7 E	57.3	.284	.2840	+.0034	.4425	.5257	78
79	1.3 E	57.1	.285	.2850	+.0066	.4406	.5247	79
80	1.8 E	57.0	.286	.2860	+.0089	.4404	.5251	80
81	2.1 E	56.9	.286	.2857	+.0106	.4387	.5237	81
82	2.3 E	56.7	.287	.2867	+.0115	.4368	.5226	82
83	2.8 E	56.7	.288	.2877	+.0141	.4383	.5244	83
84	3.3 E	56.5	.289	.2884	+.0168	.4367	.5237	84
85	3.7 E	56.3	.290	.2894	+.0188	.4347	.5226	85
86	4.1 E	56.2	.291	.2901	+.0210	.4348	.5232	86
87	4.4 E	56.0	.292	.2911	+.0225	.4330	.5221	87
88	4.8 E	55.7	.293	.2918	+.0246	.4295	.5201	88
89	5.2 E	55.7	.294	.2928	+.0268	.4310	.5218	89
90	5.5 E	55.7	.294	.2925	+.0282	.4310	.5218	90
91	5.8 E	55.6	.294	.2925	+.0297	.4292	.5204	91
92	6.2 E	55.3	.296	.2942	+.0320	.4274	.5201	92
93	6.5 E	55.0	.297	.2952	+.0336	.4241	.5177	93
94	6.9 E	54.6	.299	.2969	+.0359	.4207	.5161	94
95	7.2 E	54.5	.300	.2976	+.0375	.4206	.5166	95
96	7.6 E	54.3	.302	.2993	+.0399	.4204	.5176	96
97	8.0 E	54.1	.302	.2990	+.0420	.4171	.5149	97
98	8.3 E	53.8	.303	.3000	+.0436	.4139	.5130	98
99	8.6 E	53.6	.303	.2997	+.0454	.4109	.5106	99
100	8.9 E	53.6	.303	.2994	+.0470	.4109	.5106	100
101	9.2 E	53.5	.303	.2991	+.0485	.4094	.5093	101
102	9.5 E	53.3	.304	.2997	+.0502	.4080	.5086	102
103	9.7 E	53.1	.305	.3007	+.0512	.4063	.5081	103
104	9.9 E	52.9	.305	.3004	+.0525	.4032	.5057	104
105	10.0 E	52.8	.304	.2994	+.0529	.4004	.5028	105
106	10.2 E	52.6	.305	.3001	+.0540	.3989	.5020	106
107	10.4 E	52.4	.305	.3001	+.0552	.3962	.4999	107
108	10.7 E	52.3	.306	.3008	+.0569	.3960	.5003	108
109	10.9 E	52.1	.306	.3005	+.0578	.3932	.4982	109
110	11.1 E	51.7	.306	.3002	+.0591	.3874	.4936	110

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 26° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
111	11.2 E	51.5	.308	.3021	+.0598	.3872	.4946	111
112	11.4 E	51.7	.311	.3048	+.0616	.3937	.5016	112
113	11.5 E	51.9	.312	.3058	+.0621	.3978	.5058	113
114	11.6 E	51.8	.311	.3048	+.0625	.3953	.5029	114
115	11.8 E	51.5	.309	.3025	+.0630	.3884	.4963	115
116	11.9 E	50.8	.307	.3006	+.0632	.3764	.4857	116
117	12.0 E	50.1	.305	.2983	+.0634	.3648	.4755	117
118	12.0 E	49.8	.304	.2973	+.0632	.3596	.4709	118
119	12.1 E	49.6	.303	.2963	+.0636	.3560	.4675	119
120	12.2 E	49.5	.302	.2951	+.0637	.3536	.4651	120
121	12.4 E	49.3	.301	.2941	+.0647	.3501	.4617	121

LATITUDE 27° N.

°	°	°						°
71	2.5 W	59.0	.270	.2697	−.0119	.4493	.5243	71
72	2.2 W	59.0	.271	.2707	−.0103	.4509	.5263	72
73	1.8 W	59.0	.272	.2720	−.0084	.4526	.5282	73
74	1.4 W	59.0	.273	.2730	−.0066	.4543	.5302	74
75	1.0 W	58.9	.274	.2740	−.0047	.4543	.5305	75
76	0.6 W	58.8	.275	.2750	−.0028	.4540	.5308	76
77	0.2 W	58.7	.276	.2760	−.0008	.4540	.5313	77
78	0.4 E	58.5	.277	.2770	+.0019	.4521	.5302	78
79	0.9 E	58.2	.279	.2790	+.0045	.4500	.5295	79
80	1.6 E	58.1	.280	.2800	+.0078	.4500	.5298	80
81	1.8 E	58.2	.282	.2820	+.0087	.4549	.5352	81
82	2.2 E	58.0	.282	.2817	+.0107	.4512	.5321	82
83	2.6 E	57.9	.283	.2827	+.0127	.4511	.5326	83
84	3.1 E	57.7	.285	.2847	+.0154	.4509	.5332	84
85	3.5 E	57.6	.286	.2854	+.0174	.4507	.5337	85
86	3.9 E	57.4	.286	.2854	+.0194	.4473	.5308	86
87	4.3 E	57.2	.287	.2861	+.0215	.4454	.5298	87
88	4.7 E	57.0	.288	.2871	+.0236	.4435	.5288	88
89	5.1 E	56.9	.289	.2878	+.0257	.4433	.5292	89
90	5.5 E	56.8	.289	.2876	+.0277	.4416	.5277	90
91	5.9 E	56.7	.290	.2886	+.0299	.4414	.5281	91
92	6.3 E	56.5	.291	.2893	+.0320	.4397	.5273	92
93	6.6 E	56.2	.293	.2909	+.0337	.4377	.5268	93
94	7.0 E	55.8	.295	.2929	+.0360	.4339	.5248	94
95	7.4 E	55.6	.296	.2936	+.0382	.4322	.5239	95
96	7.7 E	55.5	.297	.2943	+.0398	.4321	.5245	96
97	8.0 E	55.5	.297	.2940	+.0413	.4321	.5245	97
98	8.4 E	55.3	.298	.2947	+.0435	.4303	.5236	98
99	8.7 E	54.9	.298	.2944	+.0450	.4241	.5182	99
100	9.0 E	54.7	.298	.2944	+.0465	.4208	.5158	100
101	9.5 E	54.7	.299	.2948	+.0493	.4222	.5176	101
102	9.7 E	54.5	.299	.2948	+.0502	.4192	.5149	102
103	9.9 E	54.3	.301	.2965	+.0518	.4190	.5159	103
104	10.1 E	54.2	.301	.2962	+.0527	.4175	.5147	104
105	10.2 E	53.9	.300	.2952	+.0531	.4113	.5091	105
106	10.4 E	53.7	.301	.2962	+.0545	.4097	.5084	106
107	10.6 E	53.5	.301	.2959	+.0554	.4067	.5060	107
108	10.9 E	53.4	.302	.2966	+.0571	.4065	.5065	108
109	11.2 E	53.3	.302	.2963	+.0586	.4053	.5052	109
110	11.4 E	53.1	.303	.2969	+.0600	.4036	.5048	110
111	11.6 E	52.8	.304	.2979	+.0611	.4004	.5028	111
112	11.8 E	52.7	.306	.2996	+.0624	.4018	.5049	112
113	11.8 E	52.8	.306	.2996	+.0624	.4030	.5061	113
114	11.9 E	52.7	.307	.3006	+.0632	.4031	.5066	114
115	12.0 E	52.6	.306	.2993	+.0636	.4002	.5037	115
116	12.1 E	52.2	.304	.2973	+.0638	.3919	.4961	116
117	12.2 E	51.6	.302	.2951	+.0637	.3811	.4862	117
118	12.4 E	51.4	.301	.2941	+.0647	.3772	.4825	118
119	12.5 E	51.2	.299	.2918	+.0646	.3720	.4772	119
120	12.6 E	51.0	.298	.2908	+.0650	.3680	.4735	120
121	12.7 E	50.8	.297	.2899	+.0653	.3641	.4699	121

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 28° N

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
71	3.0 W	59.8	.264	.2637	−.0137	.4536	.5248	71
72	2.6 W	59.8	.266	.2657	−.0120	.4570	.5288	72
73	2.3 W	59.9	.266	.2657	−.0106	.4588	.5304	73
74	1.9 W	59.9	.267	.2667	−.0088	.4606	.5324	74
75	1.6 W	59.9	.268	.2680	−.0075	.4623	.5344	75
76	1.1 W	59.9	.269	.2690	−.0051	.4640	.5364	76
77	0.6 W	59.9	.271	.2710	−.0027	.4675	.5404	77
78	0.1 W	59.7	.272	.2720	−.0005	.4654	.5391	78
79	0.4 E	59.3	.273	.2730	+.0019	.4597	.5348	79
80	0.9 E	59.3	.276	.2760	+.0044	.4648	.5407	80
81	2.0 E	59.3	.277	.2767	+.0097	.4665	.5426	81
82	1.8 E	59.0	.277	.2770	+.0086	.4609	.5379	82
83	2.3 E	59.1	.281	.2807	+.0112	.4696	.5471	83
84	3.0 E	59.0	.280	.2797	+.0146	.4659	.5438	84
85	3.4 E	58.7	.281	.2804	+.0166	.4622	.5409	85
86	3.8 E	58.6	.282	.2814	+.0186	.4619	.5412	86
87	4.2 E	58.4	.283	.2822	+.0207	.4599	.5400	87
88	4.6 E	58.2	.284	.2831	+.0227	.4581	.5390	88
89	5.0 E	58.0	.285	.2839	+.0248	.4560	.5378	89
90	5.4 E	57.9	.285	.2839	+.0268	.4543	.5364	90
91	5.9 E	57.9	.286	.2846	+.0295	.4559	.5383	91
92	6.3 E	57.6	.287	.2853	+.0316	.4523	.5355	92
93	6.7 E	57.4	.289	.2870	+.0338	.4520	.5364	93
94	7.1 E	57.2	.290	.2877	+.0360	.4501	.5353	94
95	7.4 E	57.0	.291	.2887	+.0375	.4481	.5343	95
96	7.8 E	56.9	.292	.2894	+.0397	.4479	.5347	96
97	8.2 E	56.8	.291	.2881	+.0416	.4447	.5314	97
98	8.5 E	56.6	.292	.2888	+.0432	.4430	.5306	98
99	8.8 E	56.2	.294	.2905	+.0450	.4392	.5286	99
100	9.5 E	56.0	.294	.2899	+.0485	.4360	.5257	100
101	10.0 E	56.0	.295	.2906	+.0513	.4375	.5275	101
102	10.1 E	55.7	.296	.2913	+.0518	.4339	.5254	102
103	10.2 E	55.5	.296	.2913	+.0524	.4307	.5227	103
104	10.3 E	55.2	.296	.2913	+.0530	.4259	.5186	104
105	10.4 E	55.1	.296	.2913	+.0536	.4242	.5174	105
106	10.6 E	55.0	.296	.2910	+.0545	.4227	.5159	106
107	10.8 E	54.9	.297	.2917	+.0555	.4226	.5165	107
108	11.0 E	54.7	.297	.2917	+.0567	.4194	.5141	108
109	11.4 E	54.4	.298	.2920	+.0590	.4163	.5120	109
110	11.7 E	54.1	.299	.2927	+.0607	.4129	.5098	110
111	12.0 E	53.9	.299	.2924	+.0622	.4099	.5074	111
112	12.2 E	53.7	.300	.2931	+.0633	.4083	.5067	112
113	12.2 E	54.0	.300	.2931	+.0633	.4128	.5103	113
114	12.3 E	54.3	.303	.2960	+.0645	.4218	.5193	114
115	12.3 E	53.7	.303	.2960	+.0645	.4124	.5118	115
116	12.5 E	53.1	.301	.2938	+.0650	.4009	.5015	116
117	12.6 E	52.8	.298	.2908	+.0650	.3925	.4929	117
118	12.7 E	53.0	.297	.2899	+.0653	.3941	.4936	118
119	12.8 E	52.9	.296	.2886	+.0657	.3913	.4908	119
120	12.9 E	52.6	.295	.2876	+.0658	.3859	.4856	120
121	13.1 E	52.3	.294	.2864	+.0667	.3804	.4807	121

LATITUDE 29° N.

°	°	°						°
70	4.0 W	60.7	.257	.2565	−.0180	.4580	.5251	70
71	3.6 W	60.8	.259	.2585	−.0163	.4634	.5310	71
72	3.2 W	60.8	.260	.2595	−.0146	.4651	.5330	72
73	2.9 W	60.8	.261	.2607	−.0133	.4669	.5350	73
74	2.6 W	60.9	.262	.2617	−.0118	.4708	.5387	74
75	2.2 W	61.0	.262	.2617	−.0100	.4726	.5405	75
76	1.7 W	61.1	.263	.2630	−.0079	.4766	.5441	76
77	1.1 W	61.1	.264	.2640	−.0050	.4784	.5462	77
78	0.6 W	60.9	.266	.2660	−.0027	.4780	.5469	78
79	0.1 W	60.6	.267	.2670	−.0005	.4739	.5439	79
80	0.5 E	60.2	.269	.2690	+.0024	.4697	.5412	80
81	1.3 E	60.2	.270	.2700	+.0062	.4714	.5432	81

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 29° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
82	1.8 E	60.2	.272	.2720	+.0084	.4749	.5473	82
83	2.4 E	60.1	.274	.2737	+.0115	.4768	.5496	83
84	2.9 E	60.0	.274	.2737	+.0140	.4746	.5480	84
85	3.3 E	59.8	.276	.2754	+.0160	.4742	.5487	85
86	3.7 E	59.6	.277	.2764	+.0180	.4720	.5474	86
87	4.1 E	59.4	.278	.2772	+.0200	.4701	.5460	87
88	4.5 E	59.2	.280	.2792	+.0218	.4698	.5468	88
89	4.9 E	59.0	.281	.2799	+.0239	.4676	.5457	89
90	5.4 E	58.9	.281	.2799	+.0264	.4659	.5440	90
91	5.8 E	58.9	.282	.2806	+.0285	.4676	.5460	91
92	6.3 E	58.7	.283	.2813	+.0311	.4655	.5448	92
93	6.7 E	58.6	.283	.2810	+.0331	.4636	.5431	93
94	7.1 E	58.5	.284	.2817	+.0352	.4635	.5436	94
95	7.6 E	58.2	.286	.2834	+.0378	.4613	.5428	95
96	8.0 E	58.2	.286	.2831	+.0398	.4613	.5428	96
97	8.2 E	58.0	.286	.2831	+.0409	.4576	.5397	97
98	8.6 E	57.6	.287	.2838	+.0430	.4523	.5355	98
99	8.9 E	57.4	.289	.2855	+.0448	.4520	.5364	99
100	10.0 E	57.2	.289	.2847	+.0503	.4485	.5335	100
101	10.0 E	56.9	.291	.2866	+.0506	.4464	.5328	101
102	10.1 E	56.7	.290	.2854	+.0508	.4414	.5281	102
103	10.3 E	56.7	.291	.2863	+.0521	.4429	.5299	103
104	10.5 E	56.4	.291	.2861	+.0530	.4380	.5258	104
105	10.7 E	56.2	.292	.2870	+.0543	.4362	.5250	105
106	10.8 E	56.2	.292	.2867	+.0546	.4362	.5250	106
107	11.0 E	56.0	.292	.2867	+.0558	.4330	.5221	107
108	11.2 E	55.8	.293	.2874	+.0568	.4310	.5212	108
109	11.6 E	55.6	.294	.2881	+.0591	.4292	.5204	109
110	11.9 E	55.5	.294	.2878	+.0606	.4278	.5192	110
111	12.2 E	55.4	.294	.2872	+.0620	.4263	.5177	111
112	12.5 E	55.2	.294	.2869	+.0635	.4231	.5151	112
113	12.6 E	55.0	.295	.2879	+.0643	.4213	.5142	113
114	12.6 E	54.9	.297	.2899	+.0647	.4226	.5165	114
115	12.7 E	54.8	.297	.2899	+.0653	.4211	.5153	115
116	12.8 E	54.0	.296	.2886	+.0657	.4073	.5035	116
117	12.9 E	53.9	.294	.2866	+.0656	.4031	.4989	117
118	13.0 E	54.1	.292	.2844	+.0657	.4033	.4979	118
119	13.2 E	53.9	.292	.2844	+.0666	.4003	.4955	119
120	13.3 E	53.7	.291	.2831	+.0669	.3961	.4915	120
121	13.5 E	53.5	.290	.2819	+.0676	.3918	.4875	121

LATITUDE 30° N.

°	°	°						°
70	4.5 W	61.9	.252	.2512	−.0197	.4720	.5350	70
71	4.2 W	61.9	.253	.2522	−.0185	.4739	.5371	71
72	3.8 W	61.9	.254	.2535	−.0168	.4757	.5392	72
73	3.4 W	62.0	.255	.2545	−.0150	.4797	.5432	73
74	3.1 W	62.0	.256	.2557	−.0138	.4815	.5453	74
75	2.6 W	62.1	.256	.2557	−.0115	.4836	.5471	75
76	2.2 W	62.2	.257	.2567	−.0098	.4875	.5510	76
77	1.6 W	62.2	.258	.2580	−.0072	.4894	.5532	77
78	1.0 W	62.1	.259	.2590	−.0044	.4893	.5535	78
79	0.5 W	62.0	.261	.2610	−.0023	.4909	.5559	79
80	0.2 E	61.6	.262	.2620	+.0008	.4844	.5507	80
81	0.9 E	61.4	.264	.2640	+.0042	.4842	.5515	81
82	2.0 E	61.3	.266	.2657	+.0093	.4860	.5538	82
83	1.9 E	61.3	.268	.2677	+.0088	.4896	.5580	83
84	2.6 E	61.1	.269	.2687	+.0121	.4874	.5566	84
85	3.3 E	60.9	.270	.2695	+.0157	.4852	.5551	85
86	3.8 E	60.8	.272	.2715	+.0180	.4866	.5576	86
87	4.2 E	60.6	.273	.2722	+.0199	.4846	.5561	87
88	4.6 E	60.4	.273	.2722	+.0218	.4805	.5528	88
89	5.1 E	60.2	.274	.2729	+.0244	.4784	.5513	89
90	5.5 E	60.2	.276	.2746	+.0265	.4819	.5553	90
91	5.9 E	60.0	.276	.2746	+.0284	.4780	.5520	91
92	6.3 E	59.8	.277	.2753	+.0305	.4759	.5507	92

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 30° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
93	6.8 E	59.8	.277	.2751	+.0327	.4759	.5507	93
94	7.3 E	59.7	.278	.2758	+.0353	.4757	.5510	94
95	7.8 E	59.5	.279	.2765	+.0379	.4737	.5496	95
96	8.0 E	59.3	.280	.2772	+.0389	.4715	.5485	96
97	8.0 E	59.2	.281	.2782	+.0391	.4715	.5488	97
98	8.5 E	58.8	.282	.2789	+.0417	.4656	.5443	98
99	8.9 E	58.8	.283	.2796	+.0439	.4672	.5462	99
100	9.2 E	58.5	.283	.2793	+.0453	.4619	.5417	100
101	9.6 E	58.2	.285	.2810	+.0476	.4597	.5409	101
102	10.0 E	57.9	.285	.2807	+.0496	.4543	.5364	102
103	10.4 E	57.9	.286	.2814	+.0518	.4559	.5383	103
104	10.8 E	57.7	.286	.2809	+.0535	.4525	.5351	104
105	10.9 E	57.2	.287	.2818	+.0542	.4454	.5298	105
106	11.0 E	57.1	.287	.2818	+.0548	.4437	.5284	106
107	11.4 E	57.0	.288	.2822	+.0570	.4435	.5288	107
108	11.6 E	56.8	.288	.2822	+.0579	.4401	.5259	108
109	11.8 E	56.7	.289	.2829	+.0590	.4399	.5263	109
110	12.0 E	56.5	.289	.2826	+.0601	.4367	.5237	110
111	12.4 E	56.4	.288	.2814	+.0619	.4334	.5204	111
112	12.8 E	56.4	.288	.2808	+.0639	.4334	.5204	112
113	12.9 E	56.2	.289	.2818	+.0644	.4318	.5196	113
114	13.0 E	56.0	.290	.2825	+.0652	.4301	.5185	114
115	13.0 E	55.6	.291	.2834	+.0655	.4249	.5151	115
116	13.1 E	55.2	.291	.2834	+.0661	.4188	.5098	116
117	13.3 E	55.1	.289	.2812	+.0665	.4141	.5052	117
118	13.4 E	55.0	.288	.2802	+.0668	.4113	.5020	118
119	13.6 E	55.0	.287	.2790	+.0674	.4098	.5002	119
120	13.8 E	54.8	.287	.2787	+.0686	.4070	.4979	120
121	14.0 E	54.6	.286	.2774	+.0692	.4024	.4936	121
122	14.1 E	54.5	.286	.2774	+.0698	.4010	.4925	122

LATITUDE 31° N.

°	°	°						°
70	5.0 W	63.0	.246	.2450	−.0214	.4829	.5419	70
71	4.6 W	63.0	.247	.2463	−.0198	.4849	.5441	71
72	4.2 W	63.0	.248	.2473	−.0181	.4868	.5463	72
73	3.8 W	63.1	.249	.2485	−.0164	.4908	.5503	73
74	3.5 W	63.1	.250	.2495	−.0152	.4928	.5525	74
75	3.1 W	63.1	.251	.2507	−.0136	.4947	.5547	75
76	2.6 W	63.1	.252	.2517	−.0113	.4967	.5569	76
77	2.1 W	63.1	.253	.2527	−.0094	.4987	.5591	77
78	1.4 W	63.0	.254	.2540	−.0061	.4986	.5596	78
79	0.8 W	62.8	.255	.2550	−.0036	.4962	.5579	79
80	0.1 W	62.6	.256	.2560	−.0005	.4938	.5563	80
81	0.7 E	62.4	.258	.2580	+.0031	.4936	.5568	81
82	1.3 E	62.2	.260	.2600	+.0060	.4932	.5574	82
83	1.8 E	62.1	.261	.2610	+.0081	.4930	.5578	83
84	2.3 E	62.0	.262	.2617	+.0105	.4928	.5581	84
85	3.0 E	62.0	.263	.2627	+.0137	.4947	.5602	85
86	3.6 E	61.8	.265	.2645	+.0167	.4942	.5607	86
87	4.0 E	61.8	.266	.2655	+.0186	.4961	.5629	87
88	4.4 E	61.4	.268	.2672	+.0206	.4915	.5599	88
89	5.0 E	61.4	.268	.2669	+.0233	.4915	.5599	89
90	5.4 E	61.3	.269	.2679	+.0253	.4915	.5601	90
91	5.9 E	61.2	.269	.2677	+.0277	.4893	.5584	91
92	6.5 E	61.1	.272	.2704	+.0307	.4929	.5628	92
93	7.0 E	60.9	.271	.2691	+.0331	.4870	.5572	93
94	7.5 E	60.6	.272	.2696	+.0356	.4828	.5541	94
95	7.8 E	60.6	.274	.2715	+.0373	.4864	.5581	95
96	8.2 E	60.4	.275	.2722	+.0393	.4840	.5568	96
97	8.4 E	60.2	.276	.2730	+.0403	.4819	.5553	97
98	8.7 E	60.2	.276	.2727	+.0417	.4819	.5553	98
99	9.2 E	59.9	.278	.2744	+.0445	.4796	.5543	99
100	9.3 E	59.6	.277	.2734	+.0449	.4720	.5474	100
101	9.8 E	59.5	.278	.2738	+.0473	.4720	.5477	101
102	10.3 E	59.4	.279	.2745	+.0499	.4718	.5480	102
103	10.9 E	59.2	.280	.2750	+.0529	.4698	.5468	103

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 31° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
104	11.1 E	59.0	.281	.2757	+.0542	.4676	.5457	104
105	11.3 E	58.7	.282	.2766	+.0553	.4639	.5428	105
106	11.5 E	58.6	.281	.2754	+.0559	.4603	.5392	106
107	11.7 E	58.4	.282	.2761	+.0572	.4582	.5381	107
108	12.1 E	58.1	.282	.2758	+.0592	.4532	.5335	108
109	12.2 E	57.9	.283	.2765	+.0597	.4511	.5326	109
110	12.4 E	57.7	.284	.2775	+.0611	.4493	.5314	110
111	12.7 E	57.6	.283	.2762	+.0623	.4460	.5281	111
112	13.0 E	57.4	.284	.2766	+.0639	.4442	.5271	112
113	13.3 E	57.3	.284	.2763	+.0653	.4425	.5257	113
114	13.4 E	57.0	.285	.2773	+.0661	.4389	.5233	114
115	13.4 E	56.7	.285	.2773	+.0661	.4338	.5190	115
116	13.5 E	56.6	.285	.2770	+.0664	.4323	.5178	116
117	13.6 E	56.3	.284	.2760	+.0667	.4257	.5118	117
118	13.8 E	56.1	.283	.2748	+.0676	.4211	.5074	118
119	14.0 E	56.1	.282	.2735	+.0682	.4196	.5056	119
120	14.2 E	56.0	.282	.2733	+.0691	.4182	.5042	120
121	14.4 E	55.7	.282	.2733	+.0702	.4134	.5006	121
122	14.4 E	55.6	.282	.2733	+.0702	.4117	.4991	122

LATITUDE 32° N.

°	°	°						°
69	6.0 W	64.0	.238	.2368	−.0250	.4879	.5429	69
70	5.6 W	64.1	.239	.2378	−.0234	.4921	.5471	70
71	5.1 W	64.1	.240	.2390	−.0214	.4942	.5494	71
72	4.7 W	64.1	.242	.2413	−.0198	.4983	.5540	72
73	4.3 W	64.1	.243	.2423	−.0182	.5003	.5562	73
74	3.9 W	64.1	.244	.2435	−.0166	.5024	.5585	74
75	3.6 W	64.1	.245	.2445	−.0154	.5045	.5608	75
76	3.1 W	64.0	.246	.2458	−.0133	.5043	.5611	76
77	2.5 W	63.9	.248	.2478	−.0109	.5062	.5637	77
78	1.7 W	63.8	.249	.2490	−.0075	.5060	.5640	78
79	0.9 W	63.6	.251	.2510	−.0040	.5055	.5645	79
80	0.3 W	63.5	.252	.2520	−.0013	.5055	.5647	80
81	0.4 E	63.3	.253	.2530	+.0018	.5030	.5632	81
82	1.1 E	63.2	.255	.2550	+.0048	.5049	.5656	82
83	1.6 E	63.4	.255	.2550	+.0071	.5092	.5694	83
84	2.2 E	63.2	.255	.2547	+.0097	.5049	.5656	84
85	2.6 E	63.0	.257	.2567	+.0116	.5045	.5662	85
86	3.2 E	62.8	.258	.2575	+.0144	.5021	.5645	86
87	3.3 E	62.6	.261	.2605	+.0151	.5035	.5672	87
88	4.2 E	62.5	.262	.2612	+.0191	.5033	.5675	88
89	5.0 E	62.6	.263	.2619	+.0229	.5073	.5715	89
90	5.7 E	62.5	.263	.2617	+.0260	.5052	.5697	90
91	6.1 E	62.3	.264	.2624	+.0280	.5029	.5679	91
92	6.4 E	62.2	.265	.2634	+.0297	.5027	.5682	92
93	6.8 E	61.9	.265	.2631	+.0313	.4963	.5626	93
94	7.5 E	61.7	.266	.2636	+.0348	.4940	.5610	94
95	7.9 E	61.6	.268	.2656	+.0367	.4955	.5633	95
96	8.1 E	61.5	.269	.2663	+.0379	.4955	.5638	96
97	8.5 E	61.2	.270	.2670	+.0400	.4911	.5605	97
98	8.9 E	61.2	.270	.2668	+.0418	.4911	.5605	98
99	9.4 E	61.1	.271	.2675	+.0442	.4911	.5607	99
100	9.9 E	60.8	.272	.2679	+.0468	.4866	.5576	100
101	10.3 E	60.6	.272	.2676	+.0487	.4828	.5541	101
102	10.7 E	60.5	.272	.2674	+.0506	.4806	.5524	102
103	11.1 E	60.2	.274	.2688	+.0529	.4784	.5513	103
104	11.3 E	59.8	.276	.2708	+.0541	.4742	.5487	104
105	11.7 E	59.8	.276	.2702	+.0560	.4742	.5487	105
106	11.9 E	59.8	.276	.2702	+.0569	.4742	.5487	106
107	12.1 E	59.5	.276	.2699	+.0580	.4686	.5437	107
108	12.1 E	59.2	.277	.2709	+.0582	.4643	.5410	108
109	12.7 E	59.1	.278	.2713	+.0612	.4645	.5413	109
110	12.9 E	58.8	.279	.2720	+.0622	.4606	.5385	110
111	13.1 E	58.8	.278	.2708	+.0631	.4590	.5365	111
112	13.4 E	58.5	.279	.2715	+.0647	.4553	.5340	112
113	13.7 E	58.3	.279	.2712	+.0661	.4517	.5309	113

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 32° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
114	13.7 E	58.3	.279	.2712	+.0661	.4517	.5309	114
115	13.8 E	58.0	.279	.2709	+.0667	.4464	.5265	115
116	13.8 E	57.7	.278	.2699	+.0664	.4398	.5201	116
117	14.0 E	57.6	.279	.2706	+.0675	.4397	.5206	117
118	14.2 E	57.2	.278	.2694	+.0681	.4315	.5132	118
119	14.4 E	57.1	.278	.2694	+.0692	.4298	.5118	119
120	14.6 E	57.1	.278	.2691	+.0701	.4298	.5118	120
121	14.6 E	56.8	.278	.2691	+.0701	.4248	.5076	121
122	14.6 E	56.6	.278	.2691	+.0701	.4217	.5051	122

LATITUDE 33° N.

°	°	°						°
69	6.8 W	65.0	.232	.2304	−.0274	.4976	.5489	69
70	6.4 W	65.0	.233	.2316	−.0259	.4998	.5513	70
71	5.8 W	65.0	.234	.2328	−.0236	.5019	.5536	71
72	5.2 W	65.0	.235	.2341	−.0214	.5041	.5560	72
73	4.8 W	64.9	.237	.2361	−.0199	.5060	.5586	73
74	4.4 W	64.9	.238	.2373	−.0183	.5081	.5610	74
75	4.0 W	65.0	.239	.2385	−.0167	.5126	.5655	75
76	3.5 W	64.9	.241	.2405	−.0147	.5145	.5680	76
77	2.8 W	64.8	.242	.2418	−.0119	.5142	.5685	77
78	2.0 W	64.7	.243	.2428	−.0085	.5142	.5686	78
79	1.1 W	64.6	.244	.2440	−.0046	.5139	.5688	79
80	0.4 W	64.6	.245	.2450	−.0017	.5160	.5711	80
81	0.3 E	64.6	.246	.2460	+.0012	.5181	.5734	81
82	0.9 E	64.4	.247	.2470	+.0040	.5155	.5716	82
83	2.0 E	64.2	.248	.2478	+.0087	.5131	.5699	83
84	2.0 E	64.0	.248	.2478	+.0087	.5084	.5657	84
85	2.3 E	64.0	.251	.2507	+.0100	.5146	.5725	85
86	2.7 E	63.9	.251	.2507	+.0118	.5123	.5705	86
87	3.2 E	64.1	.254	.2535	+.0142	.5230	.5814	87
88	4.4 E	63.9	.255	.2542	+.0196	.5205	.5796	88
89	5.1 E	63.7	.256	.2550	+.0228	.5179	.5778	89
90	5.6 E	63.5	.257	.2557	+.0252	.5155	.5759	90
91	6.1 E	63.3	.257	.2555	+.0272	.5109	.5721	91
92	6.5 E	63.1	.257	.2555	+.0290	.5065	.5680	92
93	6.9 E	63.0	.259	.2572	+.0311	.5084	.5706	93
94	7.3 E	62.8	.259	.2569	+.0329	.5040	.5667	94
95	7.7 E	62.7	.262	.2596	+.0351	.5075	.5712	95
96	8.2 E	62.6	.263	.2604	+.0376	.5073	.5715	96
97	8.9 E	62.4	.264	.2608	+.0409	.5050	.5697	97
98	9.3 E	62.3	.264	.2606	+.0428	.5029	.5679	98
99	9.7 E	62.1	.264	.2603	+.0444	.4987	.5642	99
100	10.1 E	62.0	.266	.2617	+.0466	.5004	.5666	100
101	10.4 E	61.7	.266	.2617	+.0481	.4940	.5610	101
102	10.6 E	61.7	.267	.2625	+.0491	.4958	.5631	102
103	10.9 E	61.4	.268	.2632	+.0507	.4915	.5599	103
104	11.5 E	61.2	.269	.2636	+.0535	.4893	.5584	104
105	11.8 E	61.0	.270	.2643	+.0554	.4871	.5570	105
106	12.2 E	60.6	.271	.2648	+.0572	.4810	.5520	106
107	12.6 E	60.4	.270	.2635	+.0589	.4752	.5468	107
108	12.8 E	60.2	.271	.2642	+.0602	.4732	.5453	108
109	12.8 E	60.2	.271	.2642	+.0602	.4732	.5453	109
110	13.0 E	59.8	.273	.2659	+.0614	.4690	.5427	110
111	13.5 E	59.7	.274	.2663	+.0638	.4688	.5431	111
112	13.8 E	59.5	.274	.2661	+.0655	.4652	.5398	112
113	14.0 E	59.2	.274	.2658	+.0663	.4598	.5351	113
114	14.1 E	59.2	.274	.2658	+.0669	.4598	.5351	114
115	14.2 E	58.9	.274	.2655	+.0671	.4543	.5305	115
116	14.3 E	58.7	.274	.2655	+.0677	.4507	.5274	116
117	14.6 E	59.0	.274	.2652	+.0690	.4559	.5321	117
118	14.7 E	58.0	.274	.2650	+.0696	.4384	.5170	118
119	14.9 E	58.0	.274	.2647	+.0704	.4384	.5170	119
120	15.0 E	58.1	.274	.2647	+.0710	.4403	.5184	120
121	14.9 E	57.8	.274	.2647	+.0704	.4351	.5143	121
122	14.9 E	57.7	.274	.2647	+.0704	.4335	.5127	122
123	14.9 E	57.6	.274	.2647	+.0704	.4318	.5113	123

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 34° N.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
68	8.0 W	66.0	.224	.2218	−.0311	.5031	.5508	68
69	7.6 W	66.0	.225	.2230	−.0297	.5054	.5533	69
70	7.1 W	66.0	.226	.2242	−.0280	.5076	.5557	70
71	6.5 W	66.0	.227	.2256	−.0257	.5098	.5582	71
72	5.9 W	66.0	.229	.2279	−.0236	.5143	.5631	72
73	5.2 W	66.0	.229	.2281	−.0208	.5143	.5631	73
74	4.8 W	66.0	.230	.2291	−.0193	.5166	.5656	74
75	4.4 W	66.0	.232	.2313	−.0179	.5211	.5705	75
76	3.8 W	66.0	.233	.2325	−.0154	.5233	.5729	76
77	3.0 W	66.0	.235	.2348	−.0122	.5278	.5779	77
78	2.1 W	65.8	.236	.2358	−.0087	.5251	.5756	78
79	1.3 W	65.7	.237	.2370	−.0055	.5250	.5759	79
80	0.6 W	65.7	.238	.2380	−.0024	.5272	.5783	80
81	0.0	65.5	.237	.2370	.0000	.5200	.5714	81
82	0.6 E	65.4	.238	.2380	+.0024	.5198	.5717	82
83	1.0 E	65.1	.242	.2420	+.0041	.5213	.5748	83
84	1.9 E	65.2	.243	.2428	+.0080	.5259	.5793	84
85	2.4 E	65.2	.244	.2438	+.0102	.5280	.5817	85
86	2.3 E	65.1	.244	.2438	+.0098	.5256	.5795	86
87	3.5 E	65.0	.246	.2455	+.0150	.5277	.5820	87
88	4.3 E	64.8	.247	.2463	+.0185	.5249	.5802	88
89	4.8 E	64.7	.249	.2480	+.0209	.5269	.5827	89
90	5.4 E	64.5	.250	.2490	+.0235	.5242	.5808	90
91	6.0 E	64.3	.250	.2488	+.0262	.5195	.5765	91
92	6.4 E	64.1	.252	.2505	+.0280	.5189	.5768	92
93	6.8 E	63.8	.254	.2522	+.0300	.5161	.5753	93
94	7.3 E	63.9	.254	.2520	+.0323	.5184	.5773	94
95	7.7 E	63.8	.256	.2537	+.0343	.5202	.5798	95
96	8.3 E	63.7	.257	.2544	+.0370	.5199	.5800	96
97	9.0 E	63.5	.258	.2549	+.0402	.5175	.5782	97
98	9.5 E	63.4	.258	.2544	+.0426	.5152	.5761	98
99	9.8 E	63.1	.258	.2541	+.0439	.5085	.5702	99
100	10.3 E	62.8	.260	.2558	+.0465	.5060	.5689	100
101	10.6 E	62.7	.260	.2556	+.0478	.5036	.5668	101
102	10.8 E	62.6	.262	.2573	+.0490	.5054	.5693	102
103	11.2 E	62.6	.260	.2551	+.0504	.5015	.5650	103
104	11.8 E	62.3	.263	.2575	+.0537	.5010	.5657	104
105	12.3 E	61.9	.264	.2579	+.0562	.4945	.5605	105
106	12.6 E	61.7	.264	.2577	+.0576	.4902	.5568	106
107	12.9 E	61.5	.265	.2584	+.0591	.4881	.5554	107
108	13.2 E	61.4	.266	.2591	+.0606	.4878	.5557	108
109	13.4 E	61.3	.266	.2588	+.0617	.4860	.5538	109
110	13.5 E	61.1	.266	.2586	+.0620	.4820	.5504	110
111	13.7 E	60.9	.268	.2605	+.0635	.4816	.5510	111
112	13.9 E	60.5	.269	.2612	+.0646	.4753	.5463	112
113	14.1 E	60.4	.269	.2609	+.0656	.4734	.5447	113
114	14.3 E	60.3	.268	.2597	+.0662	.4698	.5408	114
115	14.5 E	60.1	.268	.2594	+.0670	.4663	.5376	115
116	14.7 E	59.7	.270	.2611	+.0686	.4622	.5351	116
117	14.9 E	59.7	.270	.2608	+.0694	.4622	.5351	117
118	15.0 E	59.3	.270	.2608	+.0699	.4547	.5289	118
119	15.3 E	59.1	.270	.2606	+.0713	.4512	.5257	119
120	15.4 E	59.0	.270	.2603	+.0718	.4493	.5243	120
121	15.4 E	58.8	.270	.2603	+.0718	.4458	.5211	121
122	15.4 E	58.6	.270	.2603	+.0718	.4423	.5181	122
123	15.4 E	58.6	.270	.2603	+.0718	.4423	.5181	123

LATITUDE 35° N.

°	°	°						°
68	8.9 W	66.9	.218	.2154	−.0338	.5110	.5557	68
69	8.3 W	67.0	.219	.2168	−.0315	.5160	.5604	69
70	7.7 W	67.0	.220	.2180	−.0295	.5183	.5630	70
71	7.1 W	67.0	.221	.2192	−.0274	.5207	.5655	71
72	6.5 W	67.0	.222	.2207	−.0251	.5230	.5681	72
73	5.8 W	67.0	.223	.2219	−.0225	.5254	.5707	73
74	5.2 W	66.9	.224	.2231	−.0204	.5251	.5710	74
75	4.6 W	66.9	.225	.2243	−.0180	.5274	.5735	75

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 35° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
76	4.1 W	66.8	.226	.2253	−.0163	.5273	.5736	76
77	3.0 W	66.9	.228	.2278	−.0119	.5344	.5812	77
78	2.0 W	66.9	.228	.2278	−.0080	.5344	.5812	78
79	1.8 W	66.6	.229	.2290	−.0071	.5292	.5766	79
80	0.9 W	66.5	.232	.2320	−.0037	.5336	.5819	80
81	0.1 W	66.3	.232	.2320	−.0005	.5285	.5772	81
82	0.1 W	66.2	.234	.2340	−.0005	.5305	.5799	82
83	0.5 E	66.2	.235	.2350	+.0021	.5327	.5823	83
84	1.5 E	66.1	.237	.2370	+.0062	.5349	.5849	84
85	1.8 E	66.0	.240	.2400	+.0074	.5390	.5902	85
86	3.3 E	66.2	.238	.2375	+.0138	.5395	.5898	86
87	4.0 E	66.1	.238	.2375	+.0167	.5372	.5874	87
88	4.3 E	66.0	.238	.2373	+.0178	.5346	.5852	88
89	5.0 E	65.9	.239	.2380	+.0208	.5344	.5853	89
90	5.5 E	65.6	.242	.2408	+.0232	.5334	.5859	90
91	5.8 E	65.5	.241	.2398	+.0243	.5288	.5810	91
92	6.3 E	65.3	.244	.2425	+.0268	.5305	.5839	92
93	6.9 E	65.0	.247	.2453	+.0296	.5298	.5844	93
94	7.5 E	65.1	.248	.2458	+.0325	.5342	.5890	94
95	8.2 E	64.9	.248	.2455	+.0355	.5295	.5845	95
96	8.6 E	64.8	.249	.2463	+.0374	.5291	.5849	96
97	9.0 E	64.7	.250	.2470	+.0390	.5290	.5850	97
98	9.8 E	64.5	.251	.2472	+.0427	.5263	.5831	98
99	10.3 E	64.1	.252	.2480	+.0451	.5189	.5768	99
100	10.5 E	63.7	.253	.2487	+.0460	.5118	.5710	100
101	10.8 E	63.8	.254	.2494	+.0475	.5161	.5753	101
102	11.4 E	63.7	.255	.2499	+.0505	.5159	.5755	102
103	11.6 E	63.6	.255	.2499	+.0513	.5136	.5735	103
104	12.4 E	63.0	.258	.2521	+.0555	.5065	.5684	104
105	12.6 E	62.7	.256	.2499	+.0558	.4959	.5581	105
106	12.8 E	62.8	.257	.2506	+.0571	.5001	.5623	106
107	13.1 E	62.6	.259	.2523	+.0588	.4996	.5628	107
108	13.3 E	62.6	.260	.2530	+.0598	.5015	.5650	108
109	13.7 E	62.5	.261	.2537	+.0619	.5014	.5653	109
110	14.0 E	62.3	.259	.2512	+.0627	.4934	.5571	110
111	14.0 E	61.9	.262	.2541	+.0634	.4907	.5562	111
112	14.0 E	61.6	.262	.2541	+.0634	.4844	.5507	112
113	14.4 E	61.6	.262	.2539	+.0652	.4844	.5507	113
114	14.8 E	61.4	.262	.2534	+.0668	.4805	.5473	114
115	14.9 E	61.0	.262	.2531	+.0673	.4726	.5405	115
116	15.0 E	61.1	.263	.2541	+.0681	.4766	.5441	116
117	15.3 E	60.8	.264	.2548	+.0697	.4723	.5412	117
118	15.4 E	60.4	.265	.2555	+.0705	.4664	.5366	118
119	15.7 E	60.4	.265	.2552	+.0718	.4664	.5366	119
120	15.9 E	60.2	.265	.2549	+.0726	.4627	.5332	120
121	15.9 E	59.8	.266	.2559	+.0729	.4570	.5288	121
122	15.9 E	59.6	.266	.2559	+.0729	.4533	.5256	122
123	15.9 E	59.4	.265	.2549	+.0726	.4481	.5205	123
124	16.0 E	59.3	.265	.2547	+.0731	.4463	.5191	124

LATITUDE 36° N.

°	°	°						°
68	9.6 W	67.7	.212	.2090	−.0354	.5169	.5586	68
69	9.1 W	67.8	.213	.2102	−.0337	.5218	.5638	69
70	8.4 W	67.8	.214	.2116	−.0312	.5243	.5665	70
71	7.7 W	67.8	.214	.2121	−.0287	.5243	.5665	71
72	7.0 W	67.8	.215	.2135	−.0262	.5268	.5691	72
73	6.3 W	67.8	.216	.2147	−.0238	.5292	.5718	73
74	5.6 W	67.9	.217	.2159	−.0213	.5345	.5768	74
75	4.7 W	67.9	.218	.2173	−.0179	.5369	.5794	75
76	4.3 W	67.9	.219	.2183	−.0164	.5394	.5821	76
77	4.1 W	67.8	.222	.2213	−.0160	.5439	.5876	77
78	2.3 W	67.7	.222	.2218	−.0089	.5412	.5850	78
79	2.0 W	67.6	.222	.2218	−.0078	.5386	.5825	79
80	1.0 W	67.6	.225	.2250	−.0038	.5458	.5904	80
81	1.0 W	67.4	.225	.2250	−.0038	.5404	.5854	81

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 36° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
82	0.3 W	67.2	.228	.2280	−.0011	.5424	.5885	82
83	0.5 E	67.3	.229	.2290	+.0021	.5475	.5933	83
84	0.1 W	67.1	.232	.2320	−.0005	.5491	.5962	84
85	3.0 E	67.2	.233	.2328	+.0121	.5543	.6014	85
86	3.5 E	67.0	.232	.2315	+.0142	.5466	.5937	86
87	3.6 E	66.9	.231	.2305	+.0146	.5415	.5888	87
88	3.9 E	67.0	.230	.2295	+.0156	.5419	.5886	88
89	4.8 E	66.9	.233	.2321	+.0196	.5462	.5939	89
90	5.3 E	66.7	.234	.2331	+.0215	.5433	.5916	90
91	5.7 E	66.6	.233	.2318	+.0231	.5385	.5867	91
92	6.6 E	66.4	.236	.2346	+.0271	.5402	.5895	92
93	6.9 E	66.3	.238	.2363	+.0286	.5422	.5921	93
94	7.5 E	66.2	.238	.2359	+.0312	.5395	.5898	94
95	8.2 E	65.9	.239	.2366	+.0342	.5344	.5853	95
96	9.0 E	65.8	.241	.2381	+.0376	.5362	.5878	96
97	9.4 E	65.7	.240	.2369	+.0391	.5316	.5832	97
98	9.9 E	65.5	.244	.2403	+.0420	.5353	.5883	98
99	10.4 E	65.4	.244	.2401	+.0442	.5329	.5861	99
100	10.9 E	65.1	.245	.2406	+.0463	.5277	.5819	100
101	11.2 E	64.8	.246	.2413	+.0477	.5228	.5779	101
102	11.7 E	64.6	.248	.2428	+.0503	.5223	.5781	102
103	12.4 E	64.6	.248	.2423	+.0533	.5223	.5781	103
104	13.2 E	64.4	.251	.2445	+.0572	.5238	.5808	104
105	13.7 E	64.2	.249	.2420	+.0590	.5152	.5722	105
106	13.0 E	63.9	.251	.2445	+.0565	.5123	.5705	106
107	13.3 E	63.8	.252	.2452	+.0580	.5121	.5708	107
108	13.7 E	63.7	.251	.2437	+.0595	.5078	.5665	108
109	14.0 E	63.6	.254	.2464	+.0615	.5116	.5712	109
110	14.4 E	63.5	.252	.2442	+.0627	.5055	.5647	110
111	14.6 E	63.4	.253	.2449	+.0638	.5052	.5649	111
112	14.7 E	62.8	.255	.2466	+.0648	.4962	.5579	112
113	15.0 E	62.4	.256	.2473	+.0663	.4897	.5524	113
114	15.4 E	62.4	.257	.2477	+.0684	.4916	.5546	114
115	15.6 E	62.2	.257	.2475	+.0691	.4875	.5510	115
116	15.4 E	62.1	.258	.2487	+.0686	.4874	.5513	116
117	15.8 E	61.6	.258	.2482	+.0702	.4770	.5423	117
118	15.8 E	61.3	.260	.2501	+.0707	.4750	.5413	118
119	16.0 E	61.4	.258	.2479	+.0712	.4732	.5390	119
120	16.4 E	61.2	.261	.2503	+.0736	.4748	.5418	120
121	16.5 E	60.8	.262	.2513	+.0744	.4687	.5371	121
122	16.5 E	60.6	.262	.2513	+.0744	.4650	.5337	122
123	16.4 E	60.4	.261	.2503	+.0736	.4594	.5285	123
124	16.6 E	60.3	.261	.2500	+.0746	.4575	.5267	124

LATITUDE 37° N.

°	°	°						°
68	10.6 W	68.6	.206	.2025	−.0379	.5257	.5646	68
69	9.9 W	68.6	.207	.2039	−.0356	.5283	.5674	69
70	9.1 W	68.6	.208	.2053	−.0329	.5308	.5701	70
71	8.2 W	68.6	.208	.2059	−.0297	.5308	.5701	71
72	7.5 W	68.7	.209	.2071	−.0274	.5361	.5754	72
73	6.8 W	68.7	.209	.2075	−.0247	.5361	.5754	73
74	6.0 W	68.9	.209	.2080	−.0219	.5417	.5806	74
75	5.2 W	68.9	.209	.2082	−.0190	.5417	.5806	75
76	4.5 W	68.8	.212	.2114	−.0165	.5465	.5862	76
77	4.0 W	68.6	.214	.2136	−.0150	.5461	.5866	77
78	3.3 W	68.6	.215	.2146	−.0125	.5487	.5893	78
79	2.8 W	68.7	.215	.2148	−.0105	.5515	.5919	79
80	1.8 W	68.6	.218	.2180	−.0068	.5563	.5975	80
81	1.3 W	68.4	.216	.2160	−.0050	.5456	.5867	81
82	1.4 W	68.2	.221	.2210	−.0053	.5525	.5952	82
83	0.8 W	68.3	.219	.2190	−.0031	.5503	.5924	83
84	0.4 E	68.5	.220	.2200	+.0015	.5586	.6002	84
85	3.0 E	68.2	.222	.2218	+.0115	.5550	.5978	85
86	4.2 E	68.2	.223	.2223	+.0163	.5575	.6005	86
87	3.7 E	68.0	.225	.2246	+.0146	.5568	.6005	87

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 37° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
88	4.7 E	67.8	.224	.2233	+.0184	.5488	.5929	88
89	5.0 E	67.7	.227	.2261	+.0197	.5534	.5981	89
90	5.5 E	67.7	.226	.2249	+.0217	.5510	.5955	90
91	6.2 E	67.5	.226	.2246	+.0244	.5456	.5905	91
92	6.5 E	67.3	.228	.2266	+.0258	.5451	.5907	92
93	7.0 E	67.2	.232	.2304	+.0283	.5519	.5988	93
94	7.5 E	67.2	.229	.2269	+.0300	.5448	.5910	94
95	8.7 E	66.9	.232	.2292	+.0350	.5438	.5914	95
96	8.9 E	66.9	.233	.2302	+.0361	.5462	.5939	96
97	9.4 E	66.7	.234	.2310	+.0381	.5433	.5916	97
98	9.8 E	66.5	.236	.2325	+.0401	.5428	.5919	98
99	11.0 E	66.4	.237	.2327	+.0453	.5425	.5920	99
100	10.9 E	66.2	.238	.2337	+.0450	.5395	.5898	100
101	11.4 E	66.0	.239	.2342	+.0473	.5368	.5877	101
102	12.1 E	65.7	.240	.2347	+.0504	.5316	.5832	102
103	12.5 E	65.6	.242	.2362	+.0523	.5334	.5859	103
104	13.0 E	65.4	.243	.2367	+.0547	.5307	.5837	104
105	14.1 E	65.1	.245	.2376	+.0598	.5277	.5819	105
106	13.6 E	64.8	.245	.2381	+.0576	.5206	.5755	106
107	13.7 E	64.8	.244	.2372	+.0578	.5185	.5732	107
108	14.0 E	64.6	.245	.2376	+.0593	.5160	.5711	108
109	14.6 E	64.6	.247	.2391	+.0622	.5202	.5758	109
110	15.2 E	64.6	.246	.2374	+.0645	.5181	.5734	110
111	15.2 E	64.7	.245	.2364	+.0642	.5184	.5733	111
112	15.3 E	64.1	.247	.2384	+.0652	.5086	.5654	112
113	15.6 E	63.3	.250	.2408	+.0672	.4970	.5565	113
114	16.0 E	63.3	.252	.2422	+.0696	.5010	.5610	114
115	16.1 E	62.9	.252	.2422	+.0698	.4924	.5531	115
116	16.1 E	62.8	.252	.2422	+.0698	.4904	.5514	116
117	16.4 E	62.6	.253	.2426	+.0713	.4880	.5498	117
118	16.4 E	62.2	.254	.2436	+.0716	.4818	.5446	118
119	15.9 E	62.2	.252	.2424	+.0690	.4780	.5403	119
120	16.3 E	62.2	.251	.2410	+.0705	.4761	.5381	120
121	17.2 E	61.7	.254	.2426	+.0752	.4717	.5357	121
122	16.9 E	61.5	.257	.2459	+.0748	.4734	.5387	122
123	16.8 E	61.4	.256	.2450	+.0740	.4695	.5348	123
124	17.0 E	61.2	.255	.2438	+.0745	.4638	.5294	124

LATITUDE 38° N.

°	°	°						°
67	12.0 W	69.4	.201	.1966	−.0418	.5347	.5712	67
68	11.4 W	69.4	.201	.1970	−.0398	.5347	.5712	68
69	10.7 W	69.5	.202	.1986	−.0376	.5404	.5767	69
70	9.8 W	69.5	.202	.1990	−.0343	.5404	.5767	70
71	8.9 W	69.5	.202	.1996	−.0313	.5404	.5767	71
72	8.2 W	69.5	.203	.2010	−.0290	.5430	.5796	72
73	7.5 W	69.6	.203	.2012	−.0266	.5459	.5824	73
74	6.7 W	69.7	.203	.2016	−.0238	.5487	.5850	74
75	5.8 W	69.8	.203	.2020	−.0205	.5518	.5879	75
76	5.3 W	69.6	.206	.2052	−.0190	.5539	.5910	76
77	4.7 W	69.5	.207	.2064	−.0170	.5537	.5910	77
78	4.2 W	69.5	.209	.2084	−.0153	.5591	.5967	78
79	3.1 W	69.5	.207	.2068	−.0112	.5537	.5910	79
80	2.6 W	69.5	.208	.2078	−.0094	.5564	.5938	80
81	2.1 W	69.3	.209	.2088	−.0077	.5530	.5913	81
82	1.4 W	69.4	.211	.2110	−.0051	.5613	.5997	82
83	0.2 E	69.4	.212	.2120	+.0006	.5639	.6025	83
84	0.3 E	69.4	.213	.2130	+.0011	.5666	.6053	84
85	1.7 E	69.3	.213	.2130	+.0064	.5636	.6026	85
86	2.1 E	69.1	.214	.2138	+.0079	.5605	.5998	86
87	3.4 E	69.1	.217	.2166	+.0128	.5683	.6083	87
88	4.2 E	68.8	.217	.2163	+.0158	.5594	.6000	88
89	4.4 E	68.8	.220	.2193	+.0169	.5672	.6083	89
90	5.2 E	68.8	.218	.2171	+.0198	.5620	.6028	90
91	6.0 E	68.6	.219	.2179	+.0230	.5589	.6003	91
92	6.1 E	68.4	.222	.2207	+.0235	.5608	.6030	92

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 38° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
93	7.3 E	68.2	.223	.2212	+.0283	.5575	.6005	93
94	7.9 E	68.3	.224	.2220	+.0307	.5629	.6059	94
95	8.8 E	68.0	.224	.2213	+.0343	.5544	.5979	95
96	10.0 E	67.7	.226	.2226	+.0393	.5510	.5955	96
97	9.9 E	67.6	.227	.2236	+.0390	.5507	.5956	97
98	9.9 E	67.5	.227	.2236	+.0390	.5480	.5932	98
99	10.5 E	67.2	.230	.2261	+.0419	.5472	.5936	99
100	11.1 E	67.1	.230	.2256	+.0444	.5444	.5911	100
101	11.9 E	66.8	.233	.2281	+.0480	.5436	.5914	101
102	12.0 E	66.8	.233	.2279	+.0485	.5436	.5914	102
103	12.7 E	66.6	.235	.2294	+.0517	.5431	.5917	103
104	13.2 E	66.4	.235	.2289	+.0536	.5379	.5870	104
105	13.7 E	66.0	.238	.2313	+.0564	.5345	.5852	105
106	14.4 E	66.0	.239	.2316	+.0595	.5368	.5877	106
107	14.3 E	66.1	.238	.2306	+.0588	.5372	.5874	107
108	14.5 E	65.5	.241	.2333	+.0602	.5288	.5811	108
109	14.8 E	65.6	.242	.2340	+.0617	.5334	.5859	109
110	15.3 E	65.6	.241	.2326	+.0636	.5312	.5835	110
111	15.7 E	67.0	.238	.2292	+.0645	.5607	.6090	111
112	15.7 E	65.0	.242	.2330	+.0656	.5191	.5726	112
113	16.1 E	64.3	.246	.2364	+.0681	.5112	.5673	113
114	16.3 E	64.1	.247	.2371	+.0694	.5086	.5654	114
115	16.4 E	64.0	.246	.2359	+.0694	.5043	.5611	115
116	16.5 E	63.9	.247	.2369	+.0701	.5041	.5614	116
117	16.8 E	63.6	.247	.2364	+.0714	.4975	.5555	117
118	17.0 E	63.3	.248	.2371	+.0724	.4930	.5520	118
119	16.3 E	63.2	.247	.2371	+.0694	.4891	.5478	119
120	16.0 E	63.1	.246	.2364	+.0679	.4849	.5437	120
121	16.6 E	63.1	.250	.2395	+.0715	.4928	.5525	121
122	17.7 E	62.6	.251	.2392	+.0763	.4842	.5454	122
123	17.4 E	62.4	.250	.2385	+.0748	.4782	.5395	123
124	17.5 E	62.2	.249	.2375	+.0749	.4724	.5339	124
125	17.8 E	62.0	.250	.2380	+.0765	.4702	.5325	125

LATITUDE 39° N.

°	°	°						°
67	12.8 W	70.3	.195	.1901	−.0433	.5446	.5786	67
68	12.2 W	70.3	.196	.1915	−.0414	.5474	.5815	68
69	11.4 W	70.3	.197	.1931	−.0390	.5502	.5845	69
70	10.5 W	70.3	.197	.1937	−.0359	.5502	.5845	70
71	9.6 W	70.3	.197	.1942	−.0329	.5502	.5845	71
72	8.9 W	70.3	.197	.1946	−.0305	.5502	.5845	72
73	8.4 W	70.4	.197	.1948	−.0288	.5532	.5873	73
74	7.6 W	70.5	.197	.1952	−.0260	.5563	.5902	74
75	6.4 W	70.6	.198	.1968	−.0220	.5623	.5962	75
76	6.2 W	70.4	.200	.1988	−.0216	.5616	.5962	76
77	5.1 W	70.4	.200	.1992	−.0178	.5616	.5962	77
78	4.4 W	70.4	.200	.1994	−.0154	.5616	.5962	78
79	3.7 W	70.3	.201	.2006	−.0131	.5614	.5964	79
80	3.3 W	70.4	.203	.2026	−.0118	.5700	.6051	80
81	2.2 W	70.3	.203	.2028	−.0077	.5670	.6023	81
82	1.0 W	70.3	.203	.2030	−.0035	.5670	.6023	82
83	2.1 W	70.3	.205	.2048	−.0076	.5726	.6082	83
84	0.6 E	70.2	.205	.2050	+.0020	.5695	.6052	84
85	1.2 E	70.2	.206	.2060	+.0043	.5723	.6081	85
86	1.8 E	70.2	.206	.2060	+.0064	.5723	.6081	86
87	2.6 E	70.1	.207	.2068	+.0093	.5717	.6082	87
88	3.6 E	69.9	.208	.2076	+.0131	.5685	.6053	88
89	4.4 E	69.8	.209	.2084	+.0161	.5681	.6053	89
90	5.0 E	69.7	.212	.2112	+.0184	.5730	.6110	90
91	5.9 E	69.5	.212	.2109	+.0218	.5671	.6053	91
92	6.8 E	69.3	.214	.2125	+.0253	.5662	.6054	92
93	7.1 E	69.3	.213	.2113	+.0264	.5636	.6026	93
94	7.9 E	69.2	.216	.2141	+.0296	.5687	.6083	94
95	8.6 E	68.8	.217	.2146	+.0326	.5594	.6000	95
96	9.3 E	68.6	.219	.2162	+.0355	.5589	.6003	96
97	10.0 E	68.5	.221	.2177	+.0385	.5611	.6029	97

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 39° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
98	10.5 E	68.4	.223	.2192	+.0406	.5633	.6057	98
99	11.0 E	68.2	.222	.2180	+.0424	.5550	.5978	99
100	11.3 E	68.1	.224	.2197	+.0439	.5573	.6005	100
101	11.9 E	67.9	.227	.2222	+.0468	.5591	.6034	101
102	12.3 E	67.7	.227	.2218	+.0484	.5534	.5981	102
103	13.0 E	67.5	.228	.2221	+.0513	.5504	.5958	103
104	13.6 E	67.3	.228	.2216	+.0536	.5451	.5907	104
105	14.4 E	67.2	.229	.2219	+.0570	.5448	.5910	105
106	15.0 E	66.8	.232	.2241	+.0601	.5413	.5888	106
107	14.9 E	66.6	.233	.2251	+.0599	.5385	.5867	107
108	14.9 E	66.3	.233	.2251	+.0599	.5308	.5797	108
109	15.3 E	66.4	.237	.2287	+.0626	.5425	.5920	109
110	15.7 E	66.1	.237	.2282	+.0642	.5349	.5849	110
111	16.1 E	65.8	.236	.2268	+.0654	.5251	.5756	111
112	16.3 E	65.6	.238	.2285	+.0669	.5246	.5756	112
113	16.4 E	65.3	.239	.2292	+.0674	.5196	.5719	113
114	16.7 E	65.1	.240	.2299	+.0689	.5170	.5700	114
115	16.8 E	65.0	.240	.2297	+.0694	.5148	.5678	115
116	16.8 E	64.8	.241	.2306	+.0696	.5121	.5661	116
117	17.0 E	64.6	.242	.2314	+.0707	.5097	.5641	117
118	17.4 E	64.3	.242	.2309	+.0724	.5029	.5581	118
119	17.4 E	64.2	.243	.2318	+.0727	.5028	.5584	119
120	17.4 E	64.0	.242	.2309	+.0724	.4961	.5520	120
121	18.0 E	63.8	.242	.2301	+.0748	.4917	.5481	121
122	18.2 E	63.5	.245	.2328	+.0764	.4915	.5490	122
123	18.3 E	63.2	.245	.2325	+.0769	.4851	.5434	123
124	18.1 E	63.0	.245	.2330	+.0762	.4809	.5397	124
125	18.3 E	62.8	.245	.2325	+.0769	.4768	.5361	125

LATITUDE 40° N.

°	°	°						°
67	13.8 W	71.0	.190	.1845	−.0454	.5518	.5837	67
68	13.0 W	71.0	.190	.1851	−.0428	.5518	.5837	68
69	12.1 W	71.0	.190	.1858	−.0399	.5518	.5837	69
70	11.2 W	71.0	.190	.1864	−.0369	.5518	.5837	70
71	10.4 W	71.0	.191	.1879	−.0346	.5547	.5868	71
72	9.7 W	71.2	.191	.1883	−.0321	.5610	.5927	72
73	9.2 W	71.3	.191	.1885	−.0306	.5642	.5957	73
74	8.4 W	71.3	.191	.1889	−.0279	.5642	.5957	74
75	7.8 W	71.4	.192	.1903	−.0261	.5704	.6019	75
76	6.0 W	71.3	.192	.1910	−.0202	.5672	.5988	76
77	5.9 W	71.3	.192	.1910	−.0198	.5672	.5988	77
78	5.0 W	71.3	.193	.1922	−.0168	.5701	.6020	78
79	4.4 W	71.2	.193	.1924	−.0149	.5668	.5989	79
80	3.5 W	71.3	.193	.1926	−.0118	.5701	.6020	80
81	1.1 W	71.2	.194	.1940	−.0037	.5698	.6020	81
82	1.4 W	71.2	.195	.1950	−.0047	.5727	.6051	82
83	0.4 W	71.2	.196	.1960	−.0014	.5757	.6082	83
84	0.1 E	71.2	.197	.1970	+.0004	.5786	.6113	84
85	1.2 E	71.1	.199	.1990	+.0042	.5813	.6143	85
86	2.0 E	71.0	.199	.1988	+.0070	.5779	.6113	86
87	2.4 E	70.9	.200	.1998	+.0084	.5776	.6112	87
88	3.1 E	70.7	.202	.2018	+.0109	.5769	.6113	88
89	3.9 E	70.6	.204	.2036	+.0139	.5794	.6142	89
90	5.0 E	70.5	.205	.2042	+.0178	.5789	.6142	90
91	5.7 E	70.5	.205	.2040	+.0203	.5789	.6142	91
92	6.7 E	70.4	.206	.2046	+.0241	.5784	.6141	92
93	7.4 E	70.3	.206	.2044	+.0266	.5754	.6112	93
94	8.0 E	70.1	.208	.2059	+.0289	.5745	.6111	94
95	9.0 E	69.8	.210	.2075	+.0328	.5708	.6082	95
96	9.3 E	69.6	.209	.2063	+.0339	.5620	.5996	96
97	10.2 E	69.5	.212	.2086	+.0375	.5671	.6053	97
98	10.6 E	69.3	.215	.2113	+.0396	.5689	.6082	98
99	12.1 E	69.2	.214	.2093	+.0449	.5635	.6026	99
100	11.9 E	69.1	.216	.2115	+.0445	.5657	.6054	100
101	12.2 E	68.8	.220	.2149	+.0464	.5672	.6083	101

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 40° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
102	12.8 E	68.6	.221	.2155	+.0491	.5640	.6058	102
103	13.5 E	68.5	.221	.2148	+.0515	.5611	.6029	103
104	14.0 E	68.3	.222	.2153	+.0537	.5579	.6005	104
105	14.3 E	68.0	.223	.2161	+.0551	.5519	.5952	105
106	14.8 E	67.8	.223	.2156	+.0569	.5464	.5903	106
107	15.3 E	67.5	.228	.2200	+.0602	.5504	.5958	107
108	15.7 E	67.2	.226	.2176	+.0612	.5377	.5833	108
109	15.9 E	67.2	.231	.2222	+.0633	.5495	.5962	109
110	16.2 E	67.0	.230	.2208	+.0642	.5419	.5886	110
111	16.4 E	66.7	.231	.2215	+.0651	.5364	.5840	111
112	16.7 E	66.4	.232	.2223	+.0666	.5310	.5785	112
113	16.8 E	66.2	.232	.2220	+.0670	.5259	.5749	113
114	17.0 E	65.8	.234	.2237	+.0683	.5206	.5707	114
115	17.4 E	65.7	.234	.2232	+.0700	.5183	.5686	115
116	17.6 E	65.6	.235	.2240	+.0710	.5179	.5689	116
117	17.6 E	65.4	.236	.2249	+.0713	.5154	.5669	117
118	18.0 E	65.2	.237	.2254	+.0732	.5129	.5650	118
119	18.2 E	65.1	.239	.2270	+.0746	.5148	.5676	119
120	18.3 E	64.8	.238	.2259	+.0747	.5058	.5591	120
121	18.4 E	64.7	.238	.2259	+.0752	.5036	.5569	121
122	18.8 E	64.4	.240	.2273	+.0773	.5009	.5554	122
123	19.1 E	64.2	.240	.2268	+.0785	.4966	.5515	123
124	18.7 E	64.0	.240	.2273	+.0770	.4920	.5474	124
125	18.7 E	63.8	.241	.2282	+.0774	.4897	.5459	125

LATITUDE 41° N.

°	°	°						°
66	15.4 W	71.8	.184	.1774	−.0489	.5597	.5892	66
67	14.7 W	71.8	.184	.1779	−.0467	.5597	.5892	67
68	14.0 W	71.8	.184	.1785	−.0445	.5597	.5892	68
69	13.2 W	71.8	.184	.1792	−.0420	.5597	.5892	69
70	12.0 W	71.8	.184	.1800	−.0383	.5597	.5892	70
71	11.3 W	71.8	.184	.1805	−.0361	.5597	.5892	71
72	10.6 W	72.0	.183	.1799	−.0337	.5633	.5922	72
73	10.0 W	72.2	.184	.1812	−.0320	.5732	.6019	73
74	9.0 W	72.2	.183	.1808	−.0285	.5700	.5986	74
75	7.9 W	72.2	.185	.1833	−.0253	.5763	.6051	75
76	7.4 W	72.2	.185	.1835	−.0239	.5763	.6051	76
77	6.8 W	72.1	.185	.1837	−.0218	.5728	.6020	77
78	5.9 W	72.2	.186	.1851	−.0192	.5794	.6084	78
79	4.5 W	72.2	.186	.1854	−.0145	.5794	.6084	79
80	3.8 W	72.2	.186	.1856	−.0123	.5794	.6084	80
81	2.7 W	72.2	.187	.1868	−.0088	.5825	.6117	81
82	2.2 W	72.1	.188	.1878	−.0071	.5820	.6118	82
83	1.2 W	72.2	.188	.1880	−.0039	.5856	.6149	83
84	0.2 W	71.9	.190	.1900	−.0006	.5814	.6116	84
85	0.5 E	71.9	.192	.1920	+.0017	.5875	.6180	85
86	1.0 E	71.8	.192	.1920	+.0033	.5841	.6148	86
87	1.9 E	71.8	.193	.1928	+.0064	.5871	.6180	87
88	3.0 E	71.6	.194	.1938	+.0101	.5832	.6146	88
89	4.3 E	71.4	.195	.1944	+.0146	.5793	.6113	89
90	5.2 E	71.4	.196	.1952	+.0178	.5823	.6145	90
91	6.2 E	71.4	.197	.1958	+.0213	.5853	.6176	91
92	6.9 E	71.2	.198	.1966	+.0238	.5815	.6144	92
93	7.0 E	71.1	.199	.1976	+.0243	.5813	.6143	93
94	8.0 E	71.1	.199	.1970	+.0277	.5813	.6143	94
95	9.0 E	70.8	.202	.1996	+.0315	.5801	.6143	95
96	10.0 E	70.5	.203	.2000	+.0353	.5733	.6082	96
97	10.0 E	70.4	.205	.2019	+.0357	.5756	.6111	97
98	11.3 E	70.3	.206	.2021	+.0404	.5754	.6112	98
99	12.0 E	70.2	.206	.2015	+.0428	.5723	.6081	99
100	11.9 E	69.8	.207	.2027	+.0426	.5626	.5995	100
101	12.0 E	69.7	.211	.2064	+.0439	.5703	.6081	101
102	13.9 E	69.6	.210	.2039	+.0504	.5647	.6025	102
103	14.0 E	69.4	.212	.2056	+.0513	.5639	.6025	103
104	14.1 E	69.2	.214	.2076	+.0522	.5635	.6026	104

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 41° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
105	15.0 E	68.9	.216	.2087	+.0559	.5599	.6001	105
106	15.1 E	68.6	.218	.2104	+.0569	.5563	.5975	106
107	15.3 E	68.4	.220	.2123	+.0581	.5557	.5975	197
108	15.6 E	68.2	.222	.2138	+.0597	.5550	.5978	108
109	15.9 E	68.0	.222	.2136	+.0608	.5494	.5925	109
110	16.3 E	67.8	.223	.2141	+.0627	.5464	.5903	110
111	16.8 E	67.8	.224	.2144	+.0647	.5488	.5929	111
112	17.1 E	67.5	.225	.2151	+.0662	.5432	.5879	112
113	17.4 E	67.2	.226	.2156	+.0676	.5377	.5833	113
114	17.6 E	66.9	.227	.2163	+.0686	.5321	.5786	114
115	17.8 E	66.8	.228	.2171	+.0698	.5319	.5787	115
116	18.2 E	66.6	.230	.2185	+.0718	.5315	.5791	116
117	18.2 E	66.3	.231	.2194	+.0721	.5262	.5747	117
118	18.4 E	66.0	.231	.2192	+.0730	.5188	.5680	118
119	18.7 E	65.8	.233	.2207	+.0748	.5184	.5683	119
120	18.8 E	65.6	.240	.2273	+.0773	.5290	.5810	120
121	19.2 E	65.4	.233	.2200	+.0767	.5089	.5597	121
122	19.4 E	65.2	.235	.2216	+.0780	.5085	.5602	122
123	19.5 E	65.0	.235	.2216	+.0785	.5041	.5560	123
124	19.2 E	64.9	.236	.2228	+.0776	.5039	.5563	124
125	19.3 E	64.7	.236	.2228	+.0781	.4994	.5522	125
126	19.5 E	64.4	.237	.2235	+.0792	.4946	.5484	126

LATITUDE 42° N.

°	°	°						°
66	16.6 W	72.4	.178	.1705	−.0509	.5611	.5886	66
67	16.0 W	72.5	.178	.1711	−.0491	.5646	.5920	67
68	15.4 W	72.5	.177	.1706	−.0471	.5614	.5887	68
69	14.7 W	72.6	.177	.1712	−.0450	.5648	.5919	69
70	13.4 W	72.7	.177	.1722	−.0411	.5683	.5953	70
71	12.6 W	73.0	.176	.1718	−.0384	.5757	.6019	71
72	11.7 W	73.0	.176	.1723	−.0357	.5757	.6019	72
73	11.1 W	73.0	.177	.1736	−.0342	.5790	.6053	73
74	10.0 W	73.1	.176	.1734	−.0306	.5792	.6054	74
75	9.1 W	73.0	.177	.1747	−.0280	.5790	.6053	75
76	8.6 W	73.0	.178	.1760	−.0267	.5822	.6088	76
77	7.3 W	73.2	.178	.1766	−.0226	.5895	.6159	77
78	6.1 W	73.1	.178	.1769	−.0189	.5858	.6123	78
79	4.9 W	73.0	.178	.1773	−.0151	.5822	.6088	79
80	4.4 W	73.0	.179	.1785	−.0138	.5855	.6122	80
81	3.9 W	73.0	.180	.1796	−.0122	.5888	.6156	81
82	2.5 W	73.0	.179	.1788	−.0079	.5855	.6122	82
83	1.4 W	72.8	.180	.1800	−.0043	.5814	.6088	83
84	1.2 W	72.8	.183	.1830	−.0038	.5911	.6189	84
85	0.2 E	72.8	.183	.1830	+.0005	.5911	.6189	85
86	1.2 E	72.6	.183	.1830	+.0038	.5840	.6120	86
87	1.8 E	72.7	.184	.1840	+.0057	.5908	.6188	87
88	2.8 E	72.5	.185	.1848	+.0091	.5868	.6153	88
89	3.8 E	72.4	.186	.1856	+.0123	.5863	.6151	89
90	4.6 E	72.5	.186	.1854	+.0149	.5900	.6186	90
91	5.8 E	72.4	.187	.1861	+.0189	.5894	.6184	91
92	6.7 E	72.2	.189	.1877	+.0221	.5887	.6182	92
93	8.0 E	72.0	.192	.1901	+.0267	.5910	.6213	93
94	7.3 E	71.8	.193	.1915	+.0245	.5871	.6180	94
95	9.2 E	71.7	.194	.1915	+.0310	.5867	.6179	95
96	10.2 E	71.6	.195	.1919	+.0345	.5862	.6178	96
97	10.6 E	71.4	.194	.1907	+.0357	.5764	.6082	97
98	11.2 E	71.2	.200	.1962	+.0388	.5874	.6206	98
99	11 8 E	71.1	.199	.1948	+.0406	.5813	.6143	99
100	11.9 E	70.8	.202	.1978	+.0416	.5801	.6143	100
101	13.0 E	70.7	.202	.1967	+.0454	.5769	.6112	101
102	13.6 E	70.5	.204	.1983	+.0479	.5761	.6112	102
103	14.2 E	70.3	.205	.1986	+.0502	.5726	.6082	103
104	14.8 E	70.0	.207	.2002	+.0528	.5686	.6053	104
105	15.1 E	69.8	.209	.2017	+.0543	.5681	.6053	105
106	15.4 E	69.6	.211	.2034	+.0561	.5674	.6054	106

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 42° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
107	16.0 E	69.3	.213	.2047	+.0588	.5636	.6026	107
108	15.9 E	69.0	.214	.2059	+.0586	.5575	.5971	108
109	16.3 E	68.9	.215	.2064	+.0604	.5573	.5973	109
110	17.2 E	68.8	.217	.2072	+.0642	.5594	.6000	110
111	17.8 E	68.7	.217	.2066	+.0664	.5566	.5974	111
112	17.8 E	68.3	.218	.2075	+.0667	.5478	.5897	112
113	17.8 E	68.1	.220	.2094	+.0673	.5474	.5898	113
114	18.3 E	67.8	.221	2097	+.0694	.5414	.5850	114
115	18.4 E	67.7	.222	.2107	+.0702	.5412	.5850	115
116	18.6 E	67.4	.223	.2114	+.0711	.5356	.5802	116
117	18.9 E	67.2	.224	.2119	+.0726	.5329	.5781	117
118	18.8 E	66.9	.225	.2131	+.0724	.5274	.5735	118
119	19.0 E	66.6	.226	.2138	+.0737	.5223	.5691	119
120	19.7 E	66.4	.229	.2155	+.0772	.5242	.5720	120
121	20.4 E	66.2	.228	.2136	+.0796	.5169	.5650	121
122	19.8 E	66.0	.230	.2164	+.0780	.5166	.5656	122
123	19.9 E	65.8	.231	.2171	+.0788	.5140	.5634	123
124	19.6 E	65.6	.232	.2185	+.0777	.5113	.5617	124
125	19.8 E	65.5	.232	.2183	+.0786	.5090	.5594	125
126	20.0 E	65.3	.232	.2181	+.0793	.5044	.5552	126

LATITUDE 43° N.

°	°	°						°
66	17.8 W	73.0	.173	.1647	−.0529	.5659	.5917	66
67	17.1 W	73.0	.172	.1644	−.0506	.5626	.5882	67
68	16.3 W	73.1	.172	.1651	−.0483	.5661	.5917	68
69	15.4 W	73.3	.171	.1648	−.0455	.5699	.5951	69
70	14.4 W	73.5	.170	.1647	−.0423	.5739	.5986	70
71	13.1 W	73.9	.169	.1646	−.0384	.5856	.6094	71
72	12.2 W	73.8	.170	.1661	−.0359	.5851	.6093	72
73	12.2 W	73.8	.170	.1661	−.0359	.5851	.6093	73
74	11.3 W	73.8	.168	.1648	−.0329	.5783	.6021	74
75	10.3 W	73.9	.170	.1673	−.0304	.5890	.6130	75
76	9.0 W	74.0	.170	.1680	−.0265	.5928	.6168	76
77	8.4 W	73.9	.170	.1681	−.0248	.5980	.6130	77
78	6.3 W	73.8	.171	.1700	−.0188	.5886	.6129	78
79	6.0 W	73.9	.170	.1692	−.0178	.5890	.6130	79
80	5.4 W	74.1	.169	.1683	−.0159	.5934	.6168	80
81	4.4 W	74.0	.170	.1695	−.0131	.5928	.6168	81
82	3.3 W	73.8	.172	.1717	−.0100	.5920	.6164	82
83	2.3 W	73.8	.174	.1738	−.0070	.5989	.6236	83
84	1.1 W	73.7	.175	.1750	−.0033	.5985	.6235	84
85	0.0	73.8	.175	.1750	.0000	.6024	.6272	85
86	0.8 E	73.7	.175	.1750	+.0024	.5985	.6235	86
87	2.1 E	73.5	.176	.1758	+.0065	.5942	.6197	87
88	3.3 E	73.4	.177	.1766	+.0103	.5937	.6195	88
89	4.2 E	73.3	.178	.1775	+.0130	.5933	.6194	89
90	5.4 E	73.3	.178	.1773	+.0167	.5933	.6194	90
91	6.1 E	73.4	.182	.1809	+.0193	.6104	.6370	91
92	5.2 E	73.1	.178	.1773	+.0162	.5858	.6123	92
93	7.5 E	72.9	.183	.1814	+.0240	.5949	.6224	93
94	9.3 E	72.7	.184	.1816	+.0298	.5908	.6188	94
95	10.1 E	72.6	.187	.1840	+.0327	.5967	.6253	95
96	9.9 E	72.5	.187	.1842	+.0322	.5932	.6220	96
97	11.0 E	72.4	.186	.1827	+.0355	.5863	.6151	97
98	11.6 E	72.1	.191	.1872	+.0384	.5913	.6215	98
99	12.1 E	71.8	.192	.1878	+.0403	.5841	.6148	99
100	12.7 E	71.6	.194	.1893	+.0427	.5832	.6145	100
101	13.3 E	71.5	.195	.1897	+.0448	.5829	.6146	101
102	14.1 E	71.3	.197	.1911	+.0481	.5819	.6144	102
103	14.4 E	71.2	.197	.1909	+.0491	.5786	.6113	103
104	15.1 E	71.0	.199	.1920	+.0517	.5779	.6113	104
105	15.4 E	70.7	.201	.1938	+.0535	.5741	.6082	105
106	15.8 E	70.5	.204	.1962	+.0555	.5761	.6112	106
107	17.0 E	70.4	.206	.1969	+.0602	.5784	.6141	107
108	17.1 E	70.1	.206	.1969	+.0606	.5690	.6052	108

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 43° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
109	17.2 E	69.8	.209	.1996	+.0619	.5681	.6053	109
110	17.4 E	69.6	.210	.2003	+.0628	.5647	.6025	110
111	18.0 E	69.4	.211	.2007	+.0652	.5613	.5997	111
112	19.2 E	69.0	.212	.2001	+.0697	.5523	.5915	112
113	18.6 E	68.8	.212	.2010	+.0676	.5465	.5862	113
114	19.0 E	68.8	.213	.2015	+.0694	.5491	.5889	114
115	19.1 E	68.6	.215	.2032	+.0703	.5487	.5893	115
116	18.8 E	68.4	.216	.2046	+.0696	.5456	.5867	116
117	19.0 E	68.2	.217	.2053	+.0707	.5425	.5844	117
118	19.4 E	68.1	.218	.2056	+.0724	.5424	.5845	118
119	19.8 E	68.0	.220	.2070	+.0746	.5445	.5872	119
120	21.1 E	67.5	.222	.2071	+.0799	.5359	.5801	120
121	20.0 E	67.2	.222	.2087	+.0759	.5281	.5730	121
122	20.2 E	66.8	.224	.2101	+.0773	.5226	.5685	122
123	20.1 E	66.5	.225	.2113	+.0774	.5175	.5643	123
124	19.9 E	66.4	.226	.2124	+.0768	.5173	.5645	124
125	20.3 E	66.3	.226	.2120	+.0784	.5148	.5623	125
126	20.7 E	66.1	.227	.2122	+.0801	.5123	.5602	126
127	21.0 E	65.9	.227	.2120	+.0813	.5076	.5559	127

LATITUDE 44° N.

°	°	°						°
65	19.4 W	73.6	.167	.1575	−.0554	.5675	.5915	65
66	18.9 W	73.7	.167	.1580	−.0541	.5711	.5950	66
67	18.0 W	74.0	.166	.1579	−.0513	.5788	.6022	67
68	16.9 W	74.1	.165	.1579	−.0480	.5793	.6022	68
69	15.8 W	74.1	.164	.1578	−.0446	.5758	.5986	69
70	15.6 W	74.2	.163	.1570	−.0438	.5760	.5987	70
71	15.3 W	74.4	.162	.1563	−.0428	.5803	.6025	71
72	13.5 W	74.5	.163	.1584	−.0380	.5878	.6099	72
73	12.8 W	74.5	.163	.1589	−.0362	.5878	.6099	73
74	12.0 W	74.7	.160	.1565	−.0333	.5848	.6064	74
75	10.6 W	74.8	.159	.1563	−.0293	.5853	.6064	75
76	10.1 W	74.9	.161	.1584	−.0282	.5967	.6181	76
77	9.2 W	74.9	.163	.1609	−.0261	.6041	.6258	77
78	7.7 W	74.7	.164	.1625	−.0220	.5994	.6216	78
79	6.7 W	74.7	.163	.1619	−.0191	.5958	.6178	79
80	5.8 W	74.8	.163	.1622	−.0165	.6000	.6217	80
81	5.3 W	74.7	.163	.1623	−.0150	.5958	.6178	81
82	4.4 W	74.6	.164	.1635	−.0126	.5953	.6176	82
83	2.9 W	74.7	.165	.1648	−.0084	.6031	.6254	83
84	1.6 W	74.6	.166	.1660	−.0046	.6026	.6252	84
85	0.4 W	74.7	.166	.1660	−.0012	.6067	.6291	85
86	0.4 E	74.6	.167	.1670	+.0012	.6062	.6289	86
87	1.8 E	74.3	.169	.1690	+.0052	.6013	.6245	87
88	3.2 E	74.1	.169	.1687	+.0095	.5934	.6168	88
89	4.3 E	74.1	.171	.1705	+.0128	.6004	.6242	89
90	5.2 E	74.1	.171	.1703	+.0156	.6004	.6242	90
91	5.7 E	74.0	.172	.1711	+.0170	.5998	.6240	91
92	6.3 E	73.8	.173	.1720	+.0190	.5955	.6200	92
93	6.9 E	73.8	.175	.1738	+.0210	.6024	.6272	93
94	8.5 E	73.6	.176	.1741	+.0260	.5980	.6234	94
95	8.8 E	73.4	.177	.1749	+.0271	.5937	.6195	95
96	9.6 E	73.3	.179	.1765	+.0299	.5966	.6229	96
97	10.6 E	73.2	.179	.1760	+.0329	.5928	.6193	97
98	11.3 E	72.9	.182	.1785	+.0357	.5917	.6190	98
99	12.0 E	72.7	.184	.1800	+.0383	.5908	.6188	99
100	12.7 E	72.5	.186	.1815	+.0409	.5900	.6186	100
101	13.6 E	72.4	.187	.1818	+.0439	.5894	.6184	101
102	14.3 E	72.3	.189	.1831	+.0467	.5921	.6216	102
103	15.0 E	72.0	.191	.1845	+.0495	.5879	.6181	103
104	15.3 E	71.8	.193	.1862	+.0510	.5871	.6180	104
105	15.7 E	71.6	.195	.1878	+.0528	.5862	.6178	105
06	16.4 E	71.3	.196	.1880	+.0553	.5790	.6113	106
107	16.9 E	71.2	.197	.1885	+.0573	.5786	.6113	107
108	17.6 E	71.0	.199	.1896	+.0601	.5779	.6113	108

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 44° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
109	17.9 E	70.7	.202	.1923	+.0620	.5769	.6113	109
110	17.9 E	70.6	.200	.1904	+.0614	.5680	.6022	110
111	18.4 E	70.3	.200	.1898	+.0632	.5586	.5934	111
112	18.7 E	70.1	.205	.1941	+.0658	.5662	.6023	112
113	19.4 E	69.9	.205	.1933	+.0681	.5603	.5966	113
114	19.7 E	69.8	.207	.1948	+.0698	.5626	.5995	114
115	19.6 E	69.6	.207	.1950	+.0693	.5566	.5939	115
116	19.7 E	69.3	.208	.1957	+.0701	.5504	.5884	116
117	20.1 E	68.9	.212	.1991	+.0729	.5495	.5889	117
118	19.7 E	68.7	.213	.2004	+.0718	.5463	.5864	118
119	20.0 E	68.5	.215	.2021	+.0735	.5459	.5865	119
120	21.3 E	68.2	.215	.2004	+.0780	.5375	.5790	120
121	21.3 E	68.0	.216	.2013	+.0784	.5346	.5765	121
122	20.8 E	67.6	.218	.2038	+.0774	.5289	.5720	122
123	21.1 E	67.2	.219	.2043	+.0788	.5210	.5652	123
124	21.1 E	67.2	.219	.2043	+.0788	.5210	.5652	124
125	21.2 E	67.2	.220	.2050	+.0796	.5234	.5678	125
126	21.4 E	66.9	.221	.2058	+.0807	.5180	.5633	126
127	21.6 E	66.7	.221	.2055	+.0813	.5132	.5587	127

LATITUDE 45° N.

°	°	°						°
65	20.8 W	74.4	.161	.1505	−.0572	.5767	.5988	65
66	20.2 W	74.5	.160	.1501	−.0552	.5770	.5987	66
67	19.2 W	74.7	.159	.1501	−.0523	.5811	.6026	67
68	17.9 W	74.8	.158	.1504	−.0485	.5816	.6026	68
69	17.3 W	74.8	.157	.1499	−.0466	.5779	.5988	69
70	16.4 W	74.8	.157	.1506	−.0443	.5779	.5988	70
71	16.2 W	75.0	.156	.1498	−.0435	.5822	.6028	71
72	15.6 W	75.1	.157	.1512	−.0422	.5900	.6106	72
73	15.4 W	75.2	.157	.1513	−.0418	.5942	.6147	73
74	15.2 W	75.4	.158	.1525	−.0414	.6066	.6268	74
75	12.0 W	75.6	.155	.1516	−.0322	.6037	.6233	75
76	10.8 W	75.6	.154	.1512	−.0288	.5998	.6192	76
77	9.8 W	75.6	.155	.1527	−.0264	.6037	.6233	77
78	8.7 W	75.6	.155	.1531	−.0234	.6037	.6233	78
79	7.6 W	75.5	.155	.1536	−.0205	.5994	.6191	79
80	6.7 W	75.5	.156	.1549	−.0183	.6033	.6231	80
81	6.5 W	75.4	.156	.1551	−.0176	.5989	.6189	81
82	5.7 W	75.4	.155	.1542	−.0153	.5950	.6149	82
83	3.6 W	75.7	.155	.1547	−.0098	.6081	.6276	83
84	1.9 W	75.6	.156	.1558	−.0051	.6076	.6273	84
85	1.1 W	75.4	.157	.1570	−.0030	.6027	.6228	85
86	0.8 W	75.3	.158	.1580	−.0022	.6023	.6227	86
87	1.5 E	75.2	.160	.1600	+.0042	.6056	.6264	87
88	2.7 E	75.1	.162	.1618	+.0076	.6088	.6300	88
89	3.8 E	75.2	.162	.1618	+.0107	.6132	.6342	89
90	5.6 E	75.0	.162	.1612	+.0159	.6046	.6260	90
91	6.0 E	74.8	.165	.1642	+.0173	.6074	.6293	91
92	6.5 E	74.7	.166	.1650	+.0188	.6067	.6291	92
93	8.2 E	74.6	.166	.1643	+.0237	.6026	.6252	93
94	9.1 E	74.6	.167	.1648	+.0264	.6062	.6289	94
95	9.3 E	74.3	.169	.1668	+.0274	.6013	.6245	95
96	9.5 E	74.1	.172	.1696	+.0284	.6039	.6278	96
97	10.2 E	74.1	.172	.1692	+.0304	.6039	.6278	97
98	11.7 E	73.9	.174	.1703	+.0353	.6029	.6274	98
99	13.1 E	73.6	.176	.1714	+.0400	.5980	.6234	99
100	13.1 E	73.6	.177	.1724	+.0402	.6014	.6269	100
101	13.8 E	73.4	.179	.1738	+.0428	.6004	.6265	101
102	14.6 E	73.2	.182	.1762	+.0459	.6028	.6297	102
103	15.2 E	73.0	.183	.1766	+.0479	.5986	.6259	103
104	15.7 E	72.6	.185	.1782	+.0501	.5903	.6186	104
105	16.4 E	72.4	.190	.1822	+.0536	.5989	.6283	105
106	17.0 E	72.2	.189	.1807	+.0552	.5887	.6182	106
107	17.5 E	71.9	.189	.1803	+.0569	.5783	.6084	107

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 45° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
108	18.0 E	71.8	.192	.1826	+.0593	.5841	.6148	108
109	18.5 E	71.8	.190	.1801	+.0602	.5780	.6084	109
110	18.9 E	71.5	.192	.1816	+.0622	.5739	.6052	110
111	19.4 E	71.2	.197	.1858	+.0654	.5786	.6113	111
112	19.5 E	71.0	.199	.1877	+.0665	.5779	.6113	112
113	19.8 E	70.8	.199	.1873	+.0675	.5715	.6052	113
114	20.3 E	70.5	.201	.1885	+.0697	.5676	.6022	114
115	20.2 E	70.3	.199	.1867	+.0687	.5558	.5904	115
116	20.3 E	70.2	.203	.1904	+.0704	.5639	.5993	116
117	20.5 E	69.9	.206	.1930	+.0721	.5630	.5995	117
118	20.7 E	69.5	.207	.1935	+.0731	.5537	.5910	118
119	20.9 E	69.3	.208	.1943	+.0743	.5504	.5884	119
120	20.8 E	69.2	.208	.1945	+.0738	.5477	.5857	120
121	21.0 E	69.1	.208	.1943	+.0745	.5448	.5830	121
122	22.0 E	68.8	.211	.1956	+.0791	.5440	.5834	122
123	21.7 E	68.0	.212	.1969	+.0784	.5247	.5658	123
124	21.6 E	68.2	.214	.1990	+.0788	.5350	.5763	124
125	21.7 E	68.1	.215	.1997	+.0796	.5349	.5764	125
126	22.0 E	67.9	.215	.1993	+.0806	.5295	.5715	126
127	22.3 E	67.5	.215	.1989	+.0815	.5190	.5618	127

LATITUDE 46° N.

°	°	°						°
64	22.9 W	74.8	.153	.1409	−.0595	.5632	.5835	64
65	22.3 W	75.0	.153	.1415	−.0580	.5710	.5912	65
66	21.4 W	75.2	.152	.1415	−.0555	.5753	.5951	66
67	20.3 W	75.4	.151	.1416	−.0524	.5797	.5990	67
68	19.4 W	75.5	.150	.1414	−.0498	.5800	.5991	68
69	18.6 W	75.5	.150	.1422	−.0478	.5800	.5991	69
70	17.9 W	75.5	.151	.1438	−.0464	.5839	.6031	70
71	17.4 W	75.6	.151	.1441	−.0451	.5881	.6072	71
72	16.9 W	75.8	.151	.1445	−.0439	.5968	.6156	72
73	15.9 W	76.1	.148	.1424	−.0406	.5981	.6161	73
74	15.3 W	76.2	.148	.1428	−.0391	.6025	.6204	74
75	14.4 W	76.2	.147	.1424	−.0366	.5984	.6162	75
76	12.4 W	76.2	.147	.1436	−.0316	.5984	.6162	76
77	10.9 W	76.3	.147	.1444	−.0278	.6030	.6206	77
78	9.5 W	76.3	.147	.1449	−.0243	.6030	.6206	78
79	8.6 W	76.2	.148	.1464	−.0222	.6025	.6204	79
80	7.9 W	76.1	.149	.1477	−.0204	.6021	.6203	80
81	7.1 W	76.2	.150	.1488	−.0186	.6106	.6288	81
82	5.0 W	76.3	.147	.1464	−.0128	.6030	.6206	82
83	4.5 W	76.4	.147	.1466	−.0115	.6077	.6252	83
84	3.8 W	76.3	.148	.1477	−.0098	.6071	.6249	84
85	1.0 W	76.1	.149	.1490	−.0025	.6021	.6203	85
86	0.3 W	76.0	.150	.1500	−.0008	.6016	.6201	86
87	1.1 E	76.0	.152	.1520	+.0029	.6097	.6284	87
88	2.3 E	76.0	.151	.1508	+.0060	.6057	.6242	88
89	2.9 E	76.1	.154	.1538	+.0079	.6223	.6411	89
90	3.7 E	75.8	.153	.1527	+.0099	.6047	.6238	90
91	5.1 E	75.7	.158	.1574	+.0141	.6198	.6397	91
92	7.0 E	75.7	.160	.1589	+.0195	.6277	.6478	92
93	7.7 E	75.6	.158	.1566	+.0212	.6154	.6353	93
94	8.5 E	75.4	.159	.1573	+.0235	.6104	.6308	94
95	9.6 E	75.3	.161	.1587	+.0269	.6137	.6345	95
96	10.7 E	75.0	.164	.1612	+.0305	.6120	.6337	96
97	11.4 E	74.9	.163	.1597	+.0323	.6041	.6258	97
98	11.7 E	74.8	.166	.1625	+.0337	.6110	.6331	98
99	12.6 E	74.6	.168	.1640	+.0366	.6098	.6327	99
100	13.7 E	74.5	.168	.1633	+.0398	.6058	.6287	100
101	14.8 E	74.2	.170	.1644	+.0434	.6008	.6244	101
102	15.5 E	73.9	.174	.1677	+.0465	.6029	.6274	102
103	16.0 E	73.7	.175	.1682	+.0483	.5985	.6235	103
104	16.3 E	73.5	.178	.1709	+.0500	.6009	.6267	104
105	16.6 E	73.3	.181	.1734	+.0518	.6033	.6299	105
106	17.3 E	73.0	.180	.1719	+.0535	.5888	.6156	106

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 46° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
107	18.3 E	72.8	.183	.1737	+.0575	.5911	.6189	107
108	18.4 E	72.7	.185	.1756	+.0585	.5940	.6222	108
109	18.3 E	72.6	.185	.1756	+.0581	.5903	.6186	109
110	19.2 E	72.3	.187	.1765	+.0615	.5859	.6150	110
111	19.6 E	72.1	.189	.1780	+.0633	.5851	.6150	111
112	20.2 E	71.8	.189	.1773	+.0652	.5749	.6052	112
113	20.7 E	71.6	.192	.1795	+.0678	.5772	.6083	113
114	21.1 E	71.2	.193	.1801	+.0695	.5668	.5989	114
115	21.2 E	70.9	.194	.1808	+.0702	.5603	.5929	115
116	21.4 E	70.9	.196	.1825	+.0715	.5660	.5990	116
117	21.5 E	70.7	.198	.1841	+.0727	.5655	.5991	117
118	21.5 E	70.4	.199	.1851	+.0730	.5588	.5932	118
119	21.8 E	70.2	.201	.1865	+.0746	.5584	.5934	119
120	21.8 E	70.0	.203	.1884	+.0753	.5576	.5936	120
121	22.0 E	69.8	.203	.1882	+.0761	.5518	.5879	121
122	21.6 E	69.7	.204	.1897	+.0751	.5514	.5879	122
123	22.0 E	69.4	.200	.1854	+.0750	.5320	.5684	123
124	22.1 E	68.9	.208	.1928	+.0782	.5391	.5778	124
125	22.3 E	69.0	.208	.1924	+.0788	.5418	.5803	125
126	22.5 E	68.8	.209	.1931	+.0800	.5388	.5779	126
127	22.8 E	68.5	.209	.1927	+.0811	.5307	.5702	127
128	23.0 E	68.2	.209	.1925	+.0817	.5225	.5628	128

LATITUDE 47° N.

°	°	°						°
64	24.6 W	75.4	.146	.1327	−.0607	.5605	.5792	64
65	23.6 W	75.7	.145	.1328	−.0580	.5688	.5871	65
66	22.7 W	75.9	.144	.1329	−.0556	.5733	.5911	66
67	21.8 W	76.1	.143	.1327	−.0531	.5779	.5953	67
68	21.0 W	76.2	.143	.1336	−.0512	.5822	.5995	68
69	20.2 W	76.2	.144	.1351	−.0497	.5862	.6036	69
70	19.4 W	76.2	.144	.1358	−.0478	.5862	.6036	70
71	18.3 W	76.3	.144	.1367	−.0452	.5907	.6080	71
72	17.3 W	76.5	.144	.1375	−.0428	.5998	.6169	72
73	16.5 W	76.7	.142	.1362	−.0403	.6007	.6173	73
74	15.9 W	76.8	.141	.1356	−.0386	.6012	.6174	74
75	15.2 W	76.9	.140	.1351	−.0367	.6016	.6177	75
76	12.8 W	77.0	.140	.1365	−.0311	.6063	.6223	76
77	11.3 W	77.0	.140	.1373	−.0274	.6063	.6223	77
78	10.1 W	77.0	.140	.1378	−.0245	.6063	.6223	78
79	9.3 W	76.9	.141	.1392	−.0228	.6059	.6221	79
80	8.4 W	76.8	.142	.1404	−.0207	.6055	.6218	80
81	7.4 W	76.9	.142	.1409	−.0183	.6102	.6265	81
82	6.4 W	77.0	.141	.1402	−.0157	.6107	.6267	82
83	5.5 W	77.2	.139	.1383	−.0133	.6119	.6274	83
84	4.2 W	77.1	.139	.1386	−.0101	.6069	.6226	84
85	2.3 W	76.9	.142	.1419	−.0057	.6102	.6265	85
86	0.5 W	76.9	.144	.1440	−.0013	.6188	.6353	86
87	0.7 E	76.9	.144	.1440	+.0017	.6188	.6353	87
88	1.0 E	76.8	.145	.1450	+.0025	.6183	.6350	88
89	2.1 E	76.8	.146	.1459	+.0054	.6225	.6393	89
90	3.8 E	76.8	.150	.1497	+.0099	.6396	.6568	90
91	5.9 E	76.7	.148	.1473	+.0152	.6260	.6434	91
92	8.2 E	76.7	.148	.1465	+.0212	.6260	.6434	92
93	8.6 E	76.4	.150	.1484	+.0225	.6201	.6380	93
94	9.1 E	76.2	.151	.1490	+.0239	.6147	.6330	94
95	10.1 E	76.0	.152	.1496	+.0266	.6097	.6284	95
96	10.0 E	75.8	.156	.1537	+.0271	.6165	.6360	96
97	11.6 E	75.7	.156	.1529	+.0314	.6120	.6316	97
98	12.4 E	75.6	.157	.1534	+.0338	.6115	.6313	98
99	13.0 E	75.4	.160	.1558	+.0360	.6142	.6347	99
100	14.4 E	75.2	.161	.1560	+.0401	.6094	.6303	100
101	15.3 E	74.9	.162	.1563	+.0428	.6004	.6219	101
102	16.0 E	74.6	.165	.1586	+.0455	.5990	.6214	102
103	16.5 E	74.5	.167	.1602	+.0474	.6022	.6249	103
104	16.8 E	74.4	.169	.1617	+.0488	.6054	.6285	104

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 47° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
105	17.1 E	74.2	.170	.1625	+.0500	.6008	.6244	105
106	17.8 E	74.0	.171	.1628	+.0523	.5963	.6204	106
107	18.5 E	73.8	.177	.1678	+.0561	.6092	.6344	107
108	19.2 E	73.5	.178	.1680	+.0586	.6009	.6267	108
109	19.5 E	73.2	.178	.1679	+.0595	.5895	.6159	109
110	19.7 E	73.0	.180	.1694	+.0607	.5888	.6156	110
111	19.8 E	72.7	.183	.1722	+.0620	.5876	.6154	111
112	20.0 E	72.5	.183	.1720	+.0626	.5805	.6087	112
113	21.0 E	72.3	.185	.1728	+.0662	.5796	.6085	113
114	21.4 E	72.0	.187	.1741	+.0683	.5756	.6051	114
115	21.6 E	71.8	.188	.1748	+.0692	.5719	.6020	115
116	21.8 E	71.7	.189	.1754	+.0701	.5715	.6020	116
117	22.3 E	71.7	.191	.1767	+.0724	.5776	.6083	117
118	22.3 E	71.2	.194	.1794	+.0735	.5698	.6020	118
119	22.4 E	71.0	.193	.1785	+.0735	.5605	.5929	119
120	22.4 E	70.8	.196	.1813	+.0747	.5629	.5960	120
121	22.3 E	70.6	.197	.1822	+.0747	.5595	.5932	121
122	22.4 E	70.4	.197	.1822	+.0751	.5532	.5873	122
123	22.8 E	70.3	.198	.1826	+.0768	.5530	.5875	123
124	22.7 E	70.1	.200	.1846	+.0772	.5524	.5876	124
125	22.8 E	69.9	.201	.1853	+.0780	.5493	.5849	125
126	23.2 E	69.7	.203	.1866	+.0800	.5487	.5850	126
127	23.6 E	69.5	.204	.1869	+.0816	.5457	.5824	127
128	23.8 E	69.2	.204	.1867	+.0824	.5371	.5745	128

LATITUDE 48° N.

°	°	°						°
64	26.2 W	76.2	.139	.1247	−.0614	.5659	.5827	64
65	25.2 W	76.3	.138	.1249	−.0588	.5661	.5826	65
66	24.2 W	76.5	.136	.1240	−.0558	.5664	.5826	66
67	23.2 W	76.6	.136	.1250	−.0536	.5709	.5868	67
68	22.4 W	76.8	.136	.1258	−.0518	.5799	.5955	68
69	21.6 W	76.9	.140	.1302	−.0515	.6016	.6177	69
70	20.9 W	77.1	.139	.1298	−.0496	.6069	.6226	70
71	20.0 W	77.3	.136	.1278	−.0465	.6034	.6187	71
72	18.7 W	77.4	.137	.1297	−.0440	.6129	.6280	72
73	17.7 W	77.5	.135	.1287	−.0410	.6090	.6237	73
74	16.7 W	77.5	.134	.1284	−.0385	.6045	.6191	74
75	15.7 W	77.6	.133	.1281	−.0360	.6049	.6194	75
76	14.2 W	77.7	.133	.1289	−.0326	.6099	.6243	76
77	12.3 W	77.7	.133	.1299	−.0283	.6099	.6243	77
78	11.0 W	77.7	.133	.1306	−.0254	.6099	.6243	78
79	10.0 W	77.7	.134	.1320	−.0233	.6145	.6290	79
80	8.9 W	77.7	.134	.1324	−.0208	.6145	.6290	80
81	7.9 W	77.7	.134	.1328	−.0184	.6145	.6290	81
82	6.9 W	77.7	.132	.1311	−.0158	.6054	.6196	82
83	5.9 W	77.9	.131	.1303	−.0135	.6111	.6250	83
84	5.2 W	77.8	.132	.1315	−.0120	.6105	.6246	84
85	3.2 W	77.8	.134	.1337	−.0075	.6198	.6341	85
86	1.7 W	77.8	.134	.1340	−.0040	.6198	.6341	86
87	0.7 E	77.8	.135	.1350	+.0016	.6244	.6388	87
88	2.2 E	77.7	.136	.1359	+.0052	.6237	.6384	88
89	2.9 E	77.6	.136	.1359	+.0069	.6185	.6334	89
90	4.3 E	77.6	.141	.1406	+.0106	.6413	.6566	90
91	5.7 E	77.5	.141	.1403	+.0140	.6361	.6514	91
92	7.0 E	77.4	.142	.1410	+.0173	.6353	.6509	92
93	7.7 E	77.2	.139	.1377	+.0186	.6119	.6274	93
94	8.0 E	77.0	.142	.1406	+.0197	.6150	.6312	94
95	8.7 E	76.8	.145	.1433	+.0219	.6183	.6350	95
96	10.2 E	76.6	.148	.1456	+.0262	.6213	.6386	96
97	11.5 E	76.5	.148	.1450	+.0295	.6164	.6340	97
98	12.5 E	76.3	.150	.1464	+.0324	.6153	.6333	98
99	13.4 E	76.0	.153	.1489	+.0355	.6137	.6325	99
100	14.1 E	75.9	.154	.1494	+.0376	.6131	.6322	100
101	15.2 E	75.8	.154	.1486	+.0403	.6086	.6279	101
102	16.0 E	75.6	.157	.1509	+.0433	.6116	.6313	102

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 48° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
103	16.7 E	75.4	.159	.1523	+.0456	.6104	.6308	103
104	17.4 E	75.2	.160	.1526	+.0478	.6056	.6264	104
105	18.1 E	75.1	.160	.1522	+.0498	.6013	.6222	105
106	18.7 E	74.9	.163	.1544	+.0523	.6041	.6258	106
107	19.3 E	74.7	.167	.1576	+.0553	.6104	.6329	107
108	19.8 E	74.3	.168	.1581	+.0570	.5977	.6208	108
109	20.4 E	74.0	.170	.1593	+.0593	.5928	.6168	109
110	21.0 E	73.8	.172	.1606	+.0616	.5920	.6164	110
111	21.3 E	73.5	.174	.1622	+.0632	.5874	.6127	111
112	21.4 E	73.3	.176	.1639	+.0642	.5866	.6125	112
113	21.4 E	73.0	.180	.1676	+.0657	.5888	.6156	113
114	22.0 E	72.8	.181	.1678	+.0679	.5846	.6121	114
115	22.6 E	72.6	.182	.1680	+.0699	.5808	.6090	115
116	22.5 E	72.5	.183	.1691	+.0701	.5805	.6087	116
117	22.8 E	72.4	.186	.1715	+.0722	.5863	.6151	117
118	22.7 E	72.2	.187	.1726	+.0722	.5825	.6117	118
119	22.9 E	71.9	.186	.1713	+.0724	.5692	.5987	119
120	23.1 E	71.5	.188	.1730	+.0737	.5619	.5926	120
121	22.9 E	71.2	.191	.1759	+.0743	.5610	.5927	121
122	23.2 E	71.2	.191	.1755	+.0753	.5610	.5927	122
123	23.6 E	71.0	.193	.1768	+.0772	.5605	.5929	123
124	23.7 E	70.9	.194	.1777	+.0780	.5603	.5929	124
125	23.7 E	70.7	.194	.1777	+.0780	.5541	.5870	125
126	24.5 E	70.5	.196	.1784	+.0813	.5535	.5872	126
127	24.9 E	70.3	.197	.1787	+.0829	.5502	.5845	127
128	24.7 E	70.2	.198	.1800	+.0828	.5500	.5845	128

LATITUDE 49° N.

°	°	°						°
65	26.0 W	76.8	.131	.1178	−.0574	.5586	.5736	65
66	25.3 W	77.0	.129	.1166	−.0551	.5587	.5734	66
67	24.7 W	77.4	.127	.1154	−.0531	.5681	.5822	67
68	23.8 W	77.7	.128	.1171	−.0517	.5870	.6008	68
69	23.0 W	78.0	.132	.1216	−.0516	.6211	.6349	69
70	22.2 W	78.1	.129	.1195	−.0488	.6121	.6256	70
71	21.4 W	78.1	.127	.1182	−.0464	.6026	.6160	71
72	20.4 W	78.1	.128	.1199	−.0447	.6074	.6208	72
73	19.0 W	78.1	.127	.1201	−.0414	.6026	.6160	73
74	17.8 W	78.2	.126	.1200	−.0386	.6032	.6161	74
75	16.6 W	78.2	.125	.1198	−.0358	.5984	.6112	75
76	15.3 W	78.2	.125	.1206	−.0330	.5984	.6112	76
77	13.8 W	78.3	.125	.1214	−.0299	.6036	.6164	77
78	12.4 W	78.3	.125	.1221	−.0269	.6036	.6164	78
79	10.9 W	78.3	.126	.1237	−.0238	.6085	.6213	79
80	9.7 W	78.3	.126	.1242	−.0212	.6085	.6213	80
81	8.5 W	78.3	.125	.1236	−.0185	.6036	.6164	81
82	7.4 W	78.4	.124	.1230	−.0160	.6041	.6167	82
83	6.3 W	78.5	.123	.1223	−.0135	.6045	.6170	83
84	4.7 W	78.6	.123	.1226	−.0101	.6100	.6223	84
85	3.6 W	78.7	.124	.1238	−.0078	.6206	.6328	85
86	2.6 W	78.8	.125	.1249	−.0056	.6312	.6435	86
87	0.5 W	78.7	.126	.1260	−.0011	.6306	.6430	87
88	1.8 E	78.6	.127	.1270	+.0039	.6298	.6425	88
89	3.0 E	78.4	.128	.1279	+.0067	.6236	.6365	89
90	4.2 E	78.1	.129	.1286	+.0094	.6121	.6256	90
91	5.7 E	78.2	.131	.1303	+.0130	.6271	.6406	91
92	6.6 E	78.1	.133	.1321	+.0153	.6311	.6450	92
93	7.3 E	77.8	.134	.1329	+.0170	.6198	.6341	93
94	8.7 E	77.6	.136	.1344	+.0205	.6185	.6334	94
95	10.1 E	77.5	.138	.1358	+.0242	.6225	.6376	95
96	10.6 E	77.4	.139	.1366	+.0256	.6219	.6372	96
97	11.4 E	77.4	.139	.1362	+.0275	.6219	.6372	97
98	13.1 E	77.2	.141	.1373	+.0320	.6207	.6365	98
99	14.3 E	77.0	.145	.1405	+.0358	.6280	.6445	99
100	15.3 E	76.8	.146	.1409	+.0385	.6225	.6393	100
101	16.2 E	76.6	.147	.1411	+.0410	.6171	.6343	101

TABLE V.—*The magnetic elements and magnetic components for each degree of latitude and longitude on January 1, 1905, for North America, from 17° N. to 49° N.*—Continued.

LATITUDE 49° N.—Continued.

Longitude W	D	I	H	X	Y	Z	F	Longitude W
°	°	°						°
102	16.9 E	76.4	.149	.1426	+.0434	.6160	.6337	102
103	17.7 E	76.1	.150	.1430	+.0456	.6062	.6244	103
104	18.2 E	75.9	.151	.1434	+.0471	.6011	.6199	104
105	18.7 E	75.8	.153	.1449	+.0491	.6047	.6238	105
106	19.3 E	75.6	.156	.1473	+.0516	.6076	.6273	106
107	19.8 E	75.4	.158	.1487	+.0536	.6066	.6268	107
108	20.3 E	75.1	.162	.1520	+.0562	.6088	.6300	108
109	20.5 E	74.8	.164	.1537	+.0574	.6037	.6255	109
110	21.1 E	74.5	.165	.1539	+.0594	.5950	.6174	110
111	22.1 E	74.3	.167	.1548	+.0628	.5942	.6171	111
112	22.5 E	74.0	.170	.1571	+.0651	.5928	.6168	112
113	23.0 E	73.8	.173	.1592	+.0676	.5955	.6200	113
114	23.5 E	73.6	.174	.1596	+.0694	.5913	.6163	114
115	23.9 E	73.5	.175	.1600	+.0709	.5908	.6162	115
116	23.6 E	73.3	.176	.1612	+.0704	.5866	.6125	116
117	23.6 E	73.0	.178	.1630	+.0712	.5822	.6088	117
118	23.3 E	72.8	.179	.1643	+.0709	.5782	.6054	118
119	23.5 E	72.5	.180	.1651	+.0718	.5710	.5987	119
120	24.2 E	72.3	.182	.1660	+.0746	.5702	.5986	120
121	24.0 E	72.1	.183	.1673	+.0745	.5666	.5955	121
122	24.1 E	72.1	.187	.1707	+.0763	.5790	.6085	122
123	24.2 E	71.8	.187	.1705	+.0767	.5689	.5988	123
124	25.0 E	71.6	.187	.1694	+.0791	.5621	.5924	124
125	26.0 E	71.4	.187	.1681	+.0819	.5556	.5862	125
126	26.4 E	71.2	.189	.1693	+.0841	.5551	.5865	126
127	26.0 E	71.0	.191	.1717	+.0837	.5547	.5868	127
128	25.6 E	70.8	.192	.1732	+.0829	.5514	.5839	128

MAGNETIC CHARTS.

MAGNETIC CHARTS.

Methods of construction.

Charts 1, 2, and 3 contain, respectively, the "Lines of Equal Magnetic Declination and of Equal Annual Change in the United States for 1905,"[a] the "Lines of Equal Magnetic Inclination and of Equal Annual Change in the United States for 1905," and the "Lines of Equal Horizontal Intensity and of Equal Annual Change in the United States for 1905." The method used in the construction of these charts was the same for each, viz, the reduced values for 1905.0 as given in Table I were plotted on a base map of about four times the size of the charts. Next the lines were drawn to conform as strictly as possible with the plotted results. At times it happened, of course, that even the scale used was not sufficient to permit showing all the local irregularities. The endeavor was made, however, to indicate in some manner, at least, these irregularities. For example, the line of no magnetic declination or agonic line, besides exhibiting many a twist and turn, has some detached ovals in Ohio. Still more numerous observations would undoubtedly introduce more of these twists and turns, but of course that is no reason why we should not portray the actual and natural facts as far as the *present* observations admit. When it comes to constructing the *general* isomagnetic lines for the entire globe, then, some smoothing or generalization of the disturbed lines over land areas will be desirable and necessary.

A discussion of the many interesting features exhibited by these charts can not be undertaken here. One can not fail to be impressed by the manifold irregularities shown by the lines. Increased knowledge teaches that instead of the irregularities being abnormal features, *they* are in truth the *normal* ones and what may be expected in any attempt to give an accurate portrayal of the distribution of the Earth's magnetic forces over *land* areas. Perfectly regular or smoothly flowing lines are either conventional ones or are based upon too few observations to admit of showing "irregularities."

Having thus drawn the isomagnetic lines for the three magnetic elements commonly observed, the declinations and inclinations were next scaled to the nearest tenth of a degree, with the aid of the constructed lines, for each degree of latitude and longitude for the entire area involved; likewise the horizontal intensities were scaled to the nearest third decimal C. G. S. unit for the same points of intersection of the parallels and meridians 1° apart. With the aid of these data the vertical intensity and the total intensity were computed, and these in turn were plotted and the "Lines of Equal Vertical Intensity in the United States for 1905" (Chart 4) and the "Lines of Equal Total Intensity in the United States for 1905" (Chart 5) were constructed to conform as closely as possible with the plotted data. This course was adopted as sufficing for the purpose rather than to undertake the great labor involved in working directly with the three observed elements given in Table I. For other purposes, moreover, these quantities for each degree of latitude and longitude are precisely what are wanted; hence a twofold purpose was served. Thus in the analytical discussion of the magnetic forces of the United States the two horizontal rectangular components of the force (X toward the geographic north and Y toward the geographic east) are required, and these in turn were computed from the data referred to above. As the charts for the two latter components are required chiefly for this discussion, they are not given in the present publication in order not to unduly increase the number of inserts.

"The Magnetic Meridians of the United States for 1905" (Chart 6), were constructed with the view of showing directly the actual bearing or direction assumed by a compass needle, and have

[a] The first edition of the isogonic chart for 1905 was published in C. & G. S. Report for 1906, Appendix No. 4: Distribution of the Magnetic Declination in the United States for January 1, 1905, with isogonic chart and secular change tables, by L. A. Bauer. In the present edition some improvements have been made owing to the acquisition of additional material.

therefore more physical reality than the "lines of equal values," which are simply a convenient, graphical form of exhibiting tabular results. The "magnetic meridians" are defined as the lines which will be traced out on the Earth's surface by ever following the precise direction pointed out by the north end of the compass needle. They were constructed directly from the "Lines of Equal Magnetic Declination" (Chart 1) by Mr. R. L. Faris, the present Inspector of Magnetic work, as follows:

"The construction of the first magnetic meridian on the chart was begun on the meridian line of 80° west longitude and at latitude 39°. At this point the angle of magnetic declination corresponding to latitude 39° 30′, where it is intersected by the magnetic meridian, was laid off from the true meridian by a protractor, and the line then drawn from parallel 39° to 40°, making the said angle with the true meridian. Where the line so drawn intersected the parallel of 40° the line was continued to parallel 41°, making an angle with the true meridian equal to the magnetic declination at 40° 30′ (as explained), and so on to the northern limit of the chart. By a similar operation the line was continued below parallel 39° to the southern limit of the chart. From this it will be seen that the length of each step for which a new direction was taken up amounted to about 1° of latitude or about 70 statute miles, and also the angle laid off at each step was the average declination for the entire length of the step, each step on the scale used being approximately 16 mm. The interval between the magnetic meridians was arbitrarily chosen and is equal to 3° of longitude measured on parallel 39° of latitude. Hence they are equidistant from each other by 3° longitude where they cross the 39° parallel of latitude.

"By the methods pursued the magnetic meridians have been made to accord as closely with the actual facts as the mechanical operation of laying off the angles with a protractor will admit, or, in other words, within the limits of accuracy of the mechanical construction of the lines."

LIST OF PUBLICATIONS OF THE COAST AND GEODETIC SURVEY (EXCEPT MAPS AND CHARTS), AUGUST 1 TO NOVEMBER 15, 1908.

This list supplements the "Reprint of the List and catalogue of the publications of the United States Coast and geodetic survey, 1816–1902. With Supplement, January, 1903, to August, 1908." The Reprint and Supplement, and all of the publications listed here, except Coast pilots, and Tide tables, which are sold at the cost of paper and printing, may be obtained free of charge upon application to the Superintendent of the Coast and geodetic survey, Washington, D. C.

Separately issued publications.

These are papers that have been published on a variety of professional, scientific, bibliographical, or administrative subjects in separate form and without serial number.

1908. Supplement to the List and catalogue of the publications of the United States Coast and geodetic survey, 1816–1902. January, 1903, to August, 1908. By R. M. Brown. 44 pp.

List and catalogue of the publications issued by the United States Coast and geodetic survey, 1816–1902. Reprint, with Supplement January, 1903, to August, 1908. By E. L. Burchard and R. M. Brown. 237, 44 pp.

Survey of the oyster bars, Somerset county, Maryland. Description of boundaries and landmarks, and report of the work of United States Coast and geodetic survey in cooperation with United States Bureau of fisheries, and Maryland Shell fish Commission. By C. C. Yates. 118 pp. Map.

General instructions for the field work of the Coast and geodetic survey. 127 pp. 21 figs.

Coast pilots.

These are a series of volumes covering the continental coasts of the United States, Porto Rico, and a portion of Alaska, containing descriptions of the coast and harbors, sailing directions, and general information, etc., for the use of mariners. They are corrected to date of issue as nearly as practicable, and new editions are issued from time to time.

Supplement to the third edition of the United States Coast pilot. Atlantic coast. Part V. From New York to Chesapeake bay entrance, August 17, 1908. 10 pp.

Supplement to the second edition of the United States Coast pilot. Atlantic coast. Parts I–II. From the St. Croix river to Cape Ann, September 18, 1908. 15 pp.

Supplement to the first edition of the United States Coast pilot. Pacific coast. California, Oregon, and Washington, October 2, 1908. 15 pp.

Supplement to the third edition of the United States Coast pilot. Atlantic coast. Part VI. Chesapeake bay and tributaries, October 16, 1908. 6 pp.

Notices to Mariners.

These contain corrections that should be applied to charts to keep them up to date. Commencing with January 3, 1908, the monthly Notice to Mariners issued in Washington was, by direction of the Secretary of Commerce and labor, consolidated with and made a part of the weekly Notice to Mariners issued by the Light-House board, and hence, commencing with January 1, 1908, was discontinued as a publication of the survey.

Philippine Islands. Notice to mariners. 1908. Nos. 6–10. 1908.

Chart catalogues.

The Catalogue of charts, coast pilots, and tide tables contains lists of the latest coast pilots, tide tables, sailing directions, miscellaneous maps and plans, and charts issued by the Survey. New editions are issued whenever necessary. Diagrams opposite each page show the limits of each chart. A catalogue of charts, sailing directions, and tide tables for the Philippine islands is issued as a separate publication. New editions are issued whenever necessary.

Catalogue of charts, coast pilots, and tide tables. 1908. 231 pp. 1908.

Catalogue of charts, sailing directions, and tide tables of the Philippine islands. 1908. 20 pp. 1908.

FOR LIBRARY CATALOGUE CARDS.

U. S. Coast and geodetic survey.

Separately issued publications. 1908.

United States Magnetic tables and magnetic charts for 1905. By L. A. Bauer, inspector of geodetic work. Washington: Government printing office. 1908. magnetic

154 pp. 7 charts. 1 diag. 30cm.
Title preceded by Commerce and labor and Survey heading. O. H. Tittmann superintendent.

Bauer, Louis Agricola.

United States Magnetic tables and magnetic charts for 1905. By L. A. Bauer, inspector of magnetic work. Washington: Government printing office. 1908.

154 pp. 7 charts. 1 diag. 30cm. (U. S. Coast and geodetic survey. Separately issued publication. 1908.)
Title preceded by Commerce and labor and Survey heading. O. H. Tittmann, superintendent.

United States Magnetic tables and magnetic charts for 1905. By L. A. Bauer, inspector of geodetic work. Washington: Government printing office. 1908. magnetic

154 pp. 7 charts. 1 diag. (U. S. Coast and geodetic survey. Separately issued publication. 1908.)
Title preceded by Commerce and labor and Survey heading. O. H. Tittmann, superintendent.

SLIPS FOR LIST AND CATALOGUE.

LIST ENTRY.

1908. United States Magnetic tables and magnetic charts for 1905. By L. A. Bauer, inspector of geodetic work. Washington: Government printing office. 1908. magnetic

154 pp. 7 charts. 1 diag. 30cm.
Title preceded by Commerce and labor and Survey heading. O. H. Tittmann, superintendent.

CATALOGUE ENTRIES.

Magnetic Tables.

BAUER, L. A. United States Magnetic tables and magnetic charts for 1905. U. S. Coast and geodetic survey. Sep. pub. (1908.)

Magnetic Charts.

BAUER, L. A. United States Magnetic tables and magnetic charts for 1905. U. S. Coast and geodetic survey. Sep. pub. (1908.)

Bauer, Louis Agricola.

United States Magnetic tables and magnetic charts for 1905. U. S. Coast and geodetic survey. Sep. pub. (1908.)

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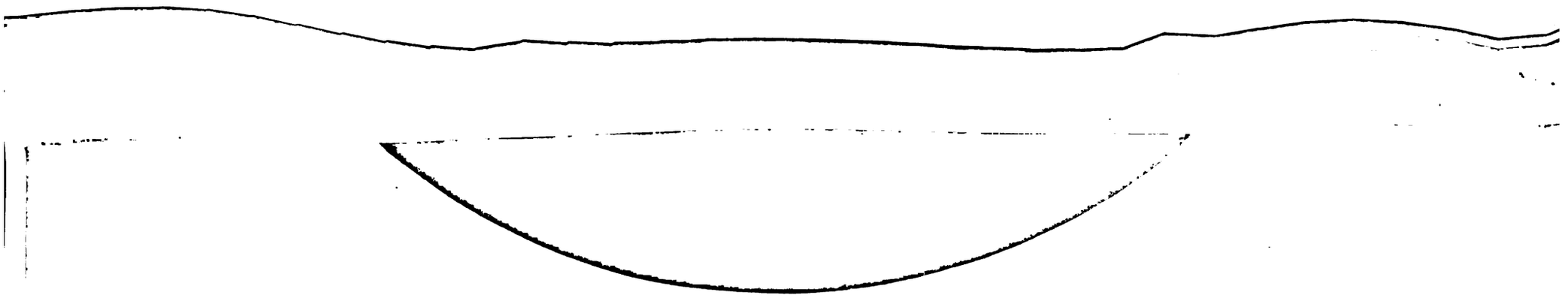

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